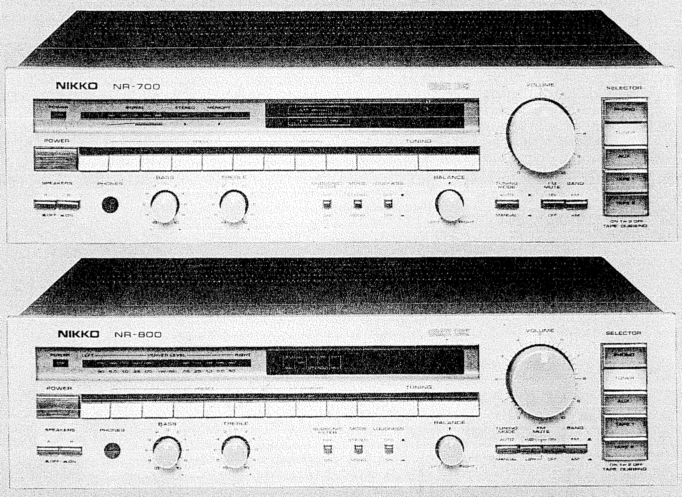
NIKKO RECEIVER

NR-700
NR-800

STEREO RECEIVER


NIKKO NR-700
VOLUME
SELECTOR
POWER
TUNING
BASS
TREBLE
BALANCE
NIKKO NR-800

TYPE AND VOLTAGE

W-TYPE:	UL & CSA type	120V AC
E -TYPE:	NK-STD type	220V AC
B -TYPE:	BS type	240V AC

SERVICE MANUAL

CONTENTS

SPECIFICATIONS 1, 2
BLOCK DIAGRAM 2
DISASSEMBLY 3
ALIGNMENT .... 4 ~ 8
POWER TRANSISTORS MOUNTING ASSEMBLY 9
PARTS LOCATION 10, 11
P. C. BOARD .... 12 ~ 15
PARTS LIST .... 16 ~ 21
SEMICONDUCTOR DATA,
  TRANSISTORS 21
  DIODE, LED'S 22
  VARIABLE CAPACITANCE DIODE 22
  ZENER DIODES 22
  INTEGRATED CIRCUITS .... 23 ~ 26

SPECIFICATIONS

FM TUNER SECTION

- Usable Sensitivity: ...... better than 12 dBμ (4 μV)
- 50 dB Quieting Sensitivity:
  - .... better than 15 dBμ (5.62 μV)
- Signal to Noise Ratio,
  - MONO: .... better than 70 dB
  - STEREO: .... better than 65 dB
- Total Harmonic Distortion at 1000 Hz,
  - MONO: .... no more than 0.3 %
  - STEREO: .... no more than 0.5 %
- Alternate Channel Selectivity: .... better than 50 dB
- Spurious Response Rejection: .... better than 80 dB
- Image Frequency Rejection: .... better than 40 dB
- IF Rejection: .... better than 70 dB
- AM Rejection: .... better than 40 dB
- Capture Ratio: .... better than 3 dB
- Stereo Separation,
  - 100 Hz: .... better than 28 dB
  - 1000 Hz: .... better than 35 dB
  - 10000 Hz: .... better than 25 dB
- Subcarrier Suppression: .... better than 50 dB
- Muting Sensitivity (NR-700): .... 30 dBμ ± 6 dB
- Muting Sensitivity (NR-800),
  - "HI" position: .... 35 dBμ ± 6 dB
  - "LOW" position: .... 20 dBμ ± 10 dB
- Tuning Frequency Range,
  - U.S.A. & Canada model: ...... 87.9 – 107.9 MHz
  - Europe & U.K. model: .... 87.5 – 108.0 MHz
- Tuning Channel Step,
  - U.S.A. & Canada model: .... 200 kHz
  - Europe & U.K. model: .... 50 kHz
- Antenna Impedance: .... 300 ohms balanced & 75 ohms unbalanced
- Output Level: .... 500 mV ± 3 dB

AM TUNER SECTION

- Usable Sensitivity: .... better than 65 dB
- Signal to Noise Ratio: .... better than 40 dB
- Image Frequency Ratio,
  - 1000 kHz: .... better than 30 dB
- IF Rejection: .... better than 20 dB
- Selectivity (± 10 kHz): .... better than 24 dB
- Total Harmonic Distortion: .... no more than 3 %
- Spurious Response Rejection: .... better than 35 dB
- Tuning Frequency Range,
  - U.S.A. & Canada model: .... 530 – 1620 kHz
  - Europe & U.K. model: .... 522 – 1611 kHz
- Tuning Channel Step,
  - U.S.A. & Canada model: .... 10 kHz
  - Europe & U.K. model: .... 9 kHz
- Output Level: .... 105 mV ± 3 dB

AUDIO AMPLIFIER SECTION

- Continuous Power Output per channel (NR-700),
  - 20 – 20000 Hz (8 ohms): ..... more than 40 Watts
  - 1000 Hz (8 ohms): .... more than 40 Watts
  - 1000 Hz (4 ohms): .... more than 45 Watts
- Continuous Power Output per channel (NR-800),
  - 20 – 20000 Hz (8 ohms): ..... more than 50 Watts
  - 1000 Hz (8 ohms): .... more than 50 Watts
  - 1000 Hz (4 ohms): .... more than 55 Watts
- Total Harmonic Distortion, 8 ohms
  - at Continuous Power Output: .. no more than 0.04 %
  - at 1 Watt Power Output: ..... no more than 0.05 %
- I. M. Distortion, 8 ohms
  - at Continuous Power Output: .. no more than 0.04 %
  - at 1 Watt Power Output: ..... no more than 0.05 %
- IHF Power Bandwidth, 8 ohms: .... 10 – 35000 Hz
- Damping Factor at 1000 Hz, 8 ohms: ......more than 30
- Frequency Response,
  - PHONO to TAPE OUT (RIAA equalization):
    - .... 30 – 15000 Hz ± 1 dB
  - AUX, TAPE IN to SPEAKER TERMINAL:
    - .... 20 – 20000 Hz ± 2 dB
- Input Sensitivity for Continuous Power Output,
  - PHONO: .... 2.2 mV ± 2 dB
  - AUX, TAPE IN: .... 150 mV ± 2 dB
- PHONO Maximum Input Capability at 1000 Hz:
  - .... more than 150 mV
- Output Level at Continuous Power Output
  - TAPE OUT (input: PHONO): ..... 150 mV ± 2 dB
- Tone Controls,
  - BASS (70 Hz) Boost: .... +7.5 dB ± 2 dB

Cut: . . . . −7.5 dB ± 2 dB
TREBLE (10000 Hz) Boost: . . . . . . +7.5 dB ± 2 dB
Cut: . . . . −7.5 dB ± 2 dB
Loudness Control (Volume Control set at −30 dB position)
70 Hz: . . . . +10 dB ± 2 dB
10000 Hz: . . . . +6 dB ± 2 dB
Subsonic Filter, at 20 Hz: . . . . −3 dB ± 2 dB
Signal to Noise Ratio with IHF-A Network,
PHONO: . . . . better than 75 dB
AUX, TAPE IN: . . . . better than 90 dB
Output Muting Delay Time: . . . . 4 Sec. ± 2 Sec.
Residual Hum and Noise, 8 ohms:
. . . . no more than 1.5 mV
Idling Current: . . . . 5 – 60 mA
Midpoint Voltage: . . . . 0 ± 100 mV

GENERAL

Power Requirement,
U. S. A. & Canada model: . . . . AC 120 V/60 Hz
European model: . . . . AC 220 V/50 Hz
U. K. model: . . . . AC 240 V/50 Hz
Power Consumption:
NR-700: . . . . 170 Watts
NR-800: . . . . 190 Watts
Dimensions without knobs and feet,
Width: . . . . 440 mm, 17-1/4"
Height: . . . . 110 mm, 4-1/4"
Depth: . . . . 350 mm, 13-1/2"
Weight without package: . . . . 9 kg, 19.9 lbs

* Specifications are subject to change without notice.

BLOCK DIAGRAM

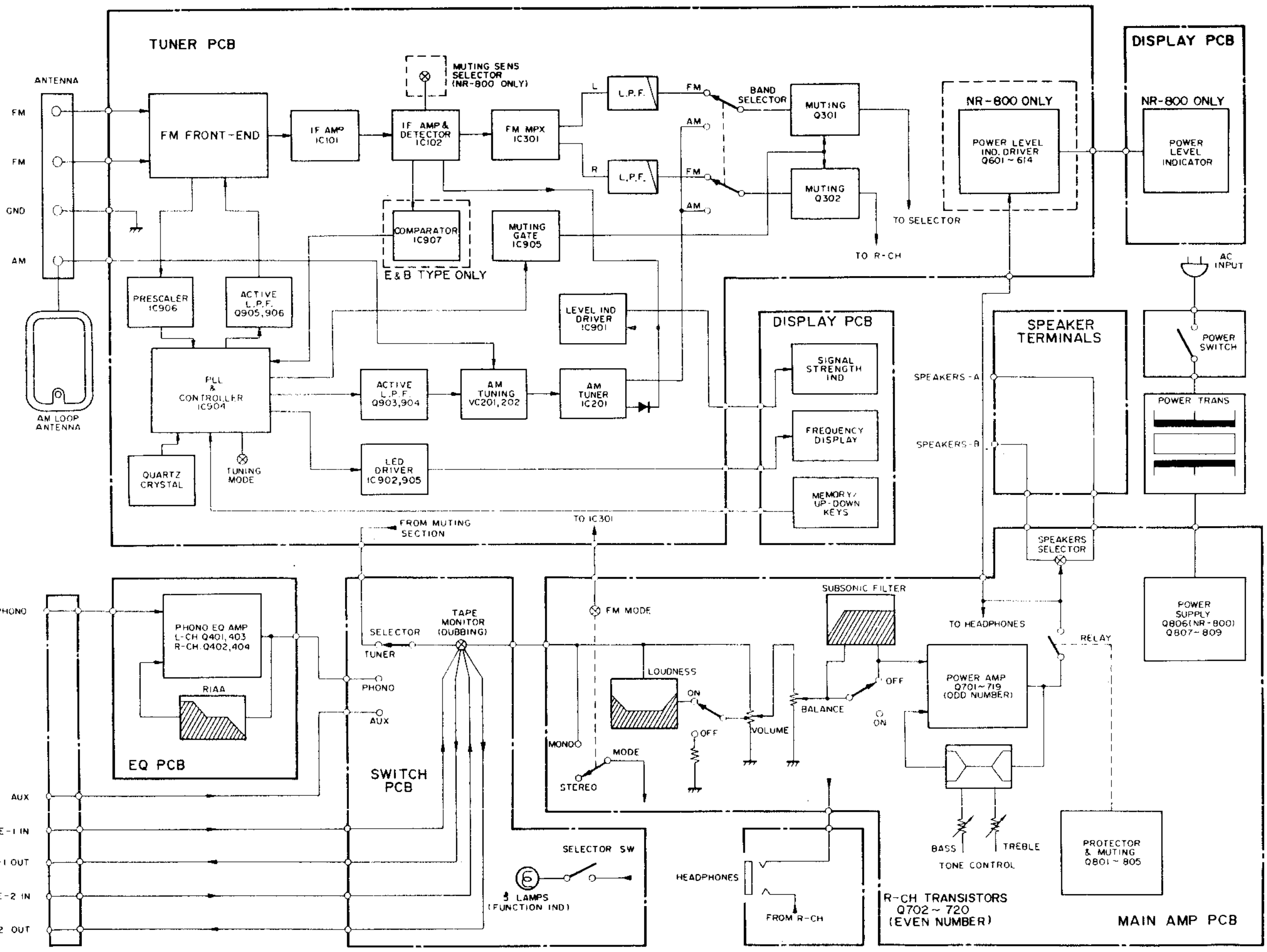

TUNER PCB
ANTENNA
FM
FM
GND
AM
AM LOOP ANTENNA
FM FRONT-END
IF AMP IC101
IF AMP & DETECTOR IC102
MUTING SENS SELECTOR (NR-800 ONLY)
FM MPX IC301
L
R
L.P.F.
L.P.F.
FM
AM
FM
AM
BAND SELECTOR
MUTING Q301
MUTING Q302
TO SELECTOR
TO R-CH
COMPARATOR IC907
E & B TYPE ONLY
MUTING GATE IC905
PRESCALER IC906
ACTIVE L.P.F. Q905,906
LEVEL IND DRIVER IC901
PLL & CONTROLLER IC904
ACTIVE L.P.F. Q903,904
AM TUNING VC201,202
AM TUNER IC201
QUARTZ CRYSTAL
TUNING MODE
LED DRIVER IC902,905
FROM MUTING SECTION
TO IC301
NR-800 ONLY
POWER LEVEL IND. DRIVER Q601 ~ 614
DISPLAY PCB
NR-800 ONLY
POWER LEVEL INDICATOR
AC INPUT
POWER SWITCH
POWER TRANS
DISPLAY PCB
SIGNAL STRENGTH IND
FREQUENCY DISPLAY
MEMORY/ UP-DOWN KEYS
SPEAKER TERMINALS
SPEAKERS-A
SPEAKERS-B
SPEAKERS SELECTOR
POWER SUPPLY Q806(NR-800) Q807~809
PHONO
PHONO EQ AMP L-CH Q401,403 R-CH Q402,404
RIAA
EQ PCB
AUX
TAPE-1 IN
TAPE-1 OUT
TAPE-2 IN
TAPE-2 OUT
SELECTOR
TAPE MONITOR (DUBBING)
TUNER
PHONO
AUX
SWITCH PCB
SELECTOR SW
6 LAMPS (FUNCTION IND)
FM MODE
LOUDNESS
ON
OFF
MONO
MODE
STEREO
VOLUME
BALANCE
SUBSONIC FILTER
OFF
ON
TO HEADPHONES
RELAY
POWER AMP Q701~719 (ODD NUMBER)
BASS
TREBLE
TONE CONTROL
PROTECTOR & MUTING Q801 ~ 805
HEADPHONES
FROM R-CH
R-CH TRANSISTORS Q702 ~ 720 (EVEN NUMBER)
MAIN AMP PCB

Figure 1

DISASSEMBLY

CABINET COVER REMOVAL

a. Remove eight screws from both sides of the metal cover.

b. Remove two tapping screws from the rear of the metal cover.

c. Lift the cover away from the unit.

BOTTOM PLATE REMOVAL

a. Remove ten tapping screws (#1 ~ #10) as shown in Photo 1.

b. Lift the bottom plate away from the unit.

FRONT PANEL REMOVAL

a. Remove the bottom plate.

b. Remove two tapping screws (#11 and #12) from the bottom of the unit as shown in Photo 1.

c. Remove two tapping screws (#1 and #2) from the top of the unit as shown in Photo 2.

d. Remove the front panel from the unit by pulling it forward.

POWER TRANSFORMER REMOVAL

a. Disconnect all the power transformer cables.

b. Remove four screws (#3 ~ #6) from the chassis of the receiver.

c. Lift the power transformer away from the unit.

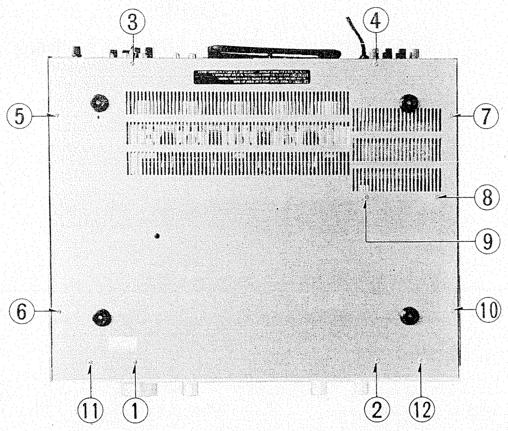


Photo 1

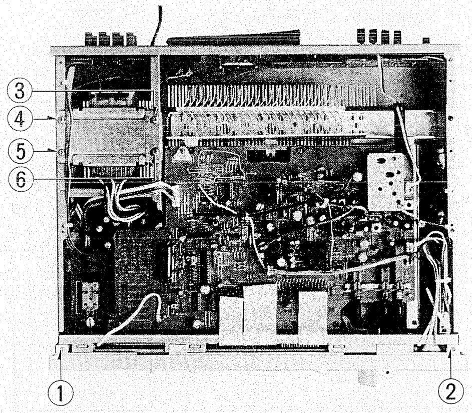


Photo 2 - 1
(NR-700)

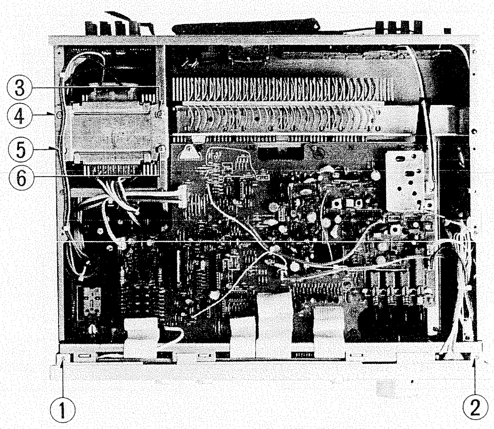


Photo 2 - 2
(NR-800)

ALIGNMENT

TEST EQUIPMENT

Allow a minimum of 10 minutes warm-up for test equipment and the receiver to be tested.
Maintain rated line voltage.

FM Signal Generator (FM SG)
Oscilloscope
AC Voltmeter
Distortion Meter
MPX Signal Generator (MPX SG)
Frequency Counter
AM Sweep Generator (AM SG)
DC Voltmeter
Audio Frequency Generator
2-Dummy Load Resistor, 8 ohms, 250W

GENERAL ALIGNMENT INSTRUCTION

Always observe response curve on oscilloscope during alignment procedure:

1. Do not apply signal from FM or AM stations. Apply signals from generators only.
2. Use of excessive signal from FM SG or AM SG can cause overloading of the tuner circuits. To properly align the receiver, adjust FM SG or AM SG output level control so that response curve on oscilloscope is not distorted.
3. Turn the volume controls down to the fully counter clockwise when the dummy load resistors or speakers are not connected to the speaker terminal.

FM SECTION

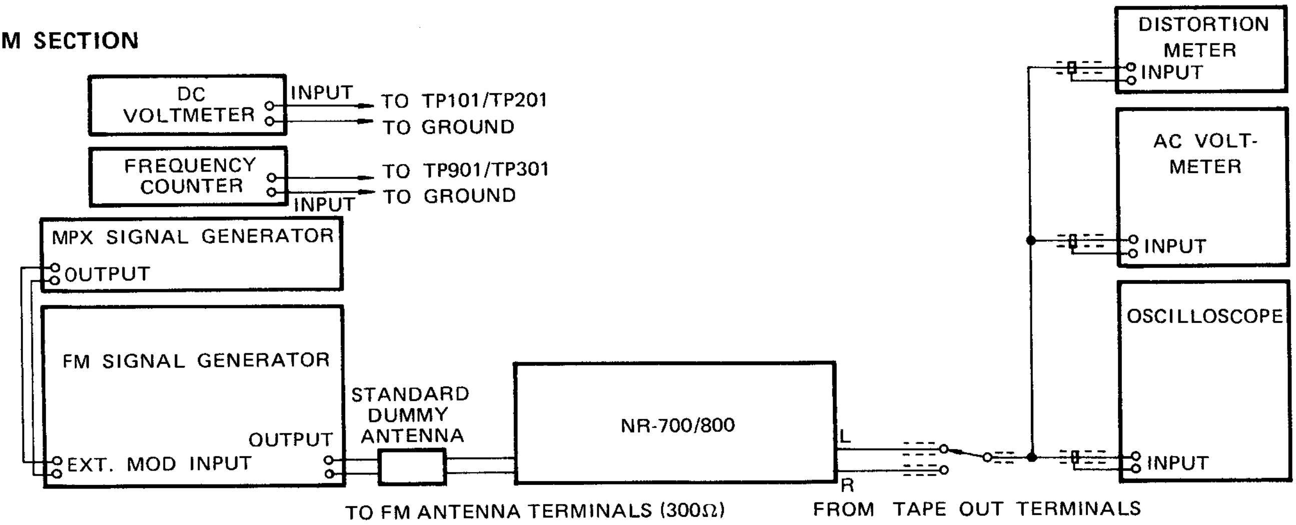

DC VOLTMETER
INPUT
TO TP101/TP201
TO GROUND
FREQUENCY COUNTER
INPUT
TO TP901/TP301
TO GROUND
MPX SIGNAL GENERATOR
OUTPUT
FM SIGNAL GENERATOR
OUTPUT
EXT. MOD INPUT
STANDARD DUMMY ANTENNA
NR-700/800
L
R
TO FM ANTENNA TERMINALS (300Ω)
FROM TAPE OUT TERMINALS
DISTORTION METER
INPUT
AC VOLT-METER
INPUT
OSCILLOSCOPE
INPUT

Figure 2 Test Equipment Hook-up

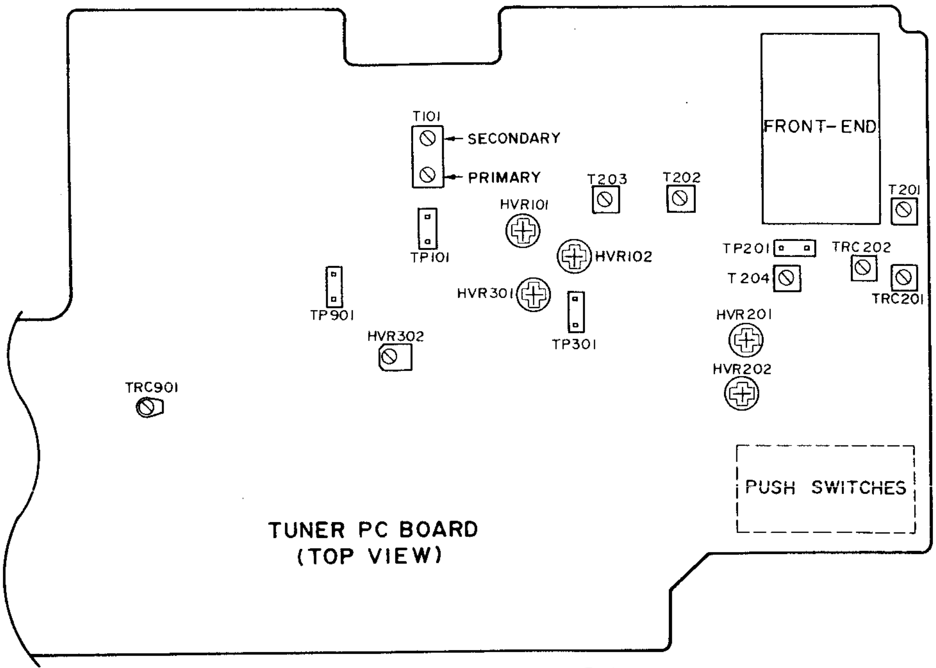

T101
SECONDARY
PRIMARY
T203
T202
FRONT-END
T201
HVR101
TP101
HVR102
TP201
TRC202
T204
TRC201
HVR301
TP901
TP301
HVR201
HVR302
HVR202
TRC901
PUSH SWITCHES
TUNER PC BOARD
(TOP VIEW)

Figure 3 Adjustment Points

Crystal Controlled Oscillator Adjustment

1. Connect a frequency counter to the test points "TP901" and "GND".
2. Set the POWER SWITCH of the receiver to ON.
3. Adjust the TUNING buttons on the front panel so that the LED frequency indicator shows 98.1 MHz. (or 98.10 MHz for E & B-type).
4. Adjust TRC401 (Photo 3) so that the frequency counter displays 108.8 MHz. (this means 98.1 + 10.7 MHz)

FM-IF Alignment

STEP	FM SG FREQUENCY/ CALIBLATION	MODULATING FREQUENCY/ DEVIATION	SWITCHES OF THE RECEIVER	LED FREQUENCY DISPLAY	ADJUSTMENT POINT	PROCEDURE
1	98.1 MHz/ 60 dBμ	(No modulation)	A. POWER to "ON" B. SELECTOR to "TUNER" C. BAND to "FM" D. FM MUTE to "OFF" E. MODE to "MONO"	98.1 MHz (W-type) 98.10 MHz (E & B-type)	Primary Core of T101 (Figure 3)	Connect DC voltmeter to test points "TP101" and "GND" (Fig. 3). Adjust T101 for 0V.
2		1 kHz/mono [±75 kHz]			Secondary Core of T101 (Figure 3)	Adjust for minimum distortion.

Muting Circuit Adjustment

STEP	FM SG FREQUENCY/ CALIBLATION	MODULATING FREQUENCY/ DEVIATION	SWITCHES OF THE RECEIVER	LED FREQUENCY DISPLAY	ADJUSTMENT POINT	PROCEDURE
1	98.1 MHz/ 60 dBμ (NR-700) 50 dBμ (NR-800)	400 Hz/mono [±75 kHz]	A. POWER to "ON" B. SELECTOR to "TUNER" C. BAND to "FM" D. FM MUTE to "ON" E. MUTING LEVEL to "LOW" (NR-800 only) F. MODE to "MONO"	98.1 MHz (W-type) 98.10 MHz (E & B-type)		Check that audio output is observed on oscilloscope.
2	98.1 MHz/ 30 dBμ (NR-700) 35 dBμ (NR-800)				HVR102 (Figure 3)	Adjust until audio output is no longer present on oscilloscope.

LED Signal-Strength Display Circuit Adjustment

STEP	FM SG FREQUENCY/ CALIBLATION	MODULATING FREQUENCY/ DEVIATION	SWITCHES OF THE RECEIVER	LED FREQUENCY DISPLAY	ADJUSTMENT POINT	PROCEDURE
1	98.1 MHz/ 60 dBμ	400 Hz/mono [±75 kHz]	A. POWER to "ON" B. SELECTOR to "TUNER" C. BAND to "FM" D. MODE to "STEREO"	98.1 MHz (W-type) 98.10 MHz (E & B-type)	HVR101 (Figure 3)	Adjust until five signal-strength display LED's light up.
2	(No signal)					Check that any signal-strength display LED no longer lights up.

FM MPX Alignment

STEP	FM SG FREQUENCY/ CALIBLATION	MODULATING FREQUENCY/ DEVIATION	SWITCHES OF THE RECEIVER	LED FRE-QUENCY DISPLAY	ADJUST-MENT POINT	PROCEDURE	REMARKS
1	98.1 MHz/ 60 dBμ	(Unmodulated carrier)	A. POWER to "ON" B. SELECTOR to "TUNER" C. BAND to "FM" D. MODE to "STEREO"	98.1 MHz (W-type) 98.10 MHz (E & B-type)	HVR301 (Figure 3)	Connect frequency counter to test points TP301 and "GND" (Fig. 2). Adjust HVR301 76 kHz ± 50 Hz	
2		1 kHz/stereo [main (L) & sub (–L): ±67.5 kHz/pilot signal: ±7.5 kHz]			HVR302 (Figure 3)	Adjust for maximum separation (minimum output of right channel)	Check that stereo lamp lights up.
3		1 kHz/stereo [main (R) & sub (–R): ± ±67.5 kHz/pilot signal: ±7.5 kHz]				Adjust for maximum separation (minimum output of left channel)	Outputs of left and right channel should be equal.

AM SECTION

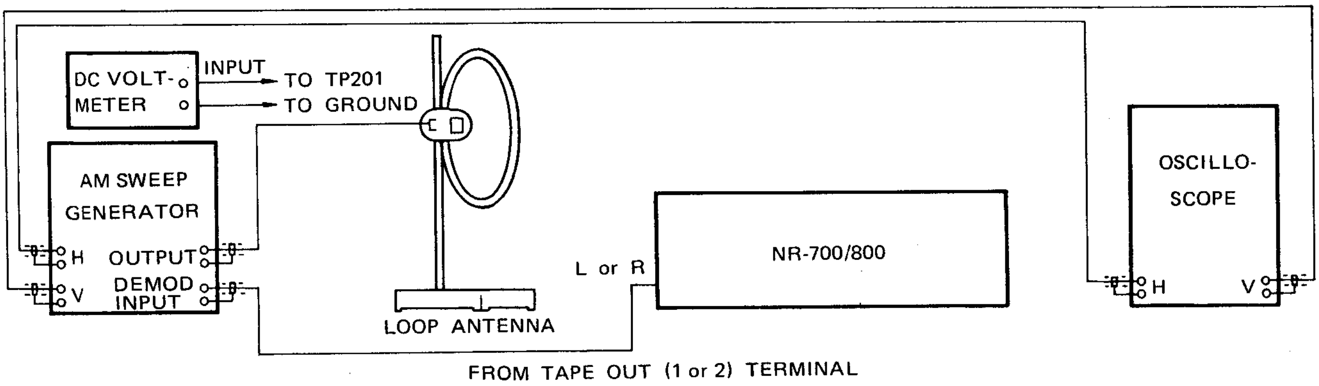


Figure 4 Test Equipment Hook-up

AM Frequency Coverage Alignment

NOTE: Apply no signal from AM SG.

STEP	SWITCHES OF THE RECEIVER	LED FREQUENCY DISPLAY	ADJUSTMENT POINT	PROCEDURE	REMARKS
1	A. POWER to "ON" B. SELECTOR to "TUNER" C. BAND to "AM"	1620 kHz (W-type) 1611 kHz (E & B-type)	TRC202 (Figure 3)	Connect DC voltmeter to test points "TP201" and "GND" (Fig. 3). Adjust TRC202 until DC voltmeter indicates approx. 23.0 V.	Repeat steps 1 and 2 several times and finally adjust the voltages to 23.0 V ± 100 mV at the high frequency end and 2.3 V ± 50 mV at the low frequency end.
2		530 kHz (W-type) 522 kHz (E & B-type)	T204 (Figure 3)	Adjust T204 until DC voltmeter indicates approx. 2.3 V.	

AM Tracking Alignment

STEP	AM SG FREQUENCY CALIBRATION		MODULATING FREQUENCY/ MODULATION	SWITCHES OF THE RECEIVER	LED FREQUENCY DISPLAY	ADJUST FOR MAX. SCOPE INDICATION	REMARKS
1	600 kHz/50 dBμ (W-type) 603 kHz/50 dBμ (E & B-type)	Set IF/RF switch of AM SG to "RF" position	400 Hz/30 %	A. POWER to "ON" B. SELECTOR to "TUNER" C. BAND to "AM"	600 kHz (W-type) 603 kHz (E & B-type)	T201 (Figure 3)	Repeat steps 1 and 2 several times.
2	1400 kHz/50 dBμ (W-type) 1404 kHz/50 dBμ (E & B-type)				1400 kHz (W-type) 1404 kHz (E & B-type)	TRC201 (Figure 3)	

NOTE: To check tracking errors, use an apparatus made of ferrite rod and copper wire (Figure 6). Move it toward the AM loop antenna gradually, while checking for the response curve on oscilloscope becoming smaller. If the response curve becomes larger, repeat steps 1 and 2 (See Figure 7).

AM IF Alignment

STEP	AM SG FREQUENCY/ CARIBLATION	MODULATING FREQUENCY/ MODULATION	SWITCHES OF THE RECEIVER	LED FREQUENCY DISPLAY	ADJUSTMENT POINT	REMARK
1	Set IF/RF switch of AM SG to "IF" position. 450 kHz/50 dBμ	(Unmodulated carrier)	A. POWER to "ON" B. SELECTOR to "TUNER" C. BAND to "AM"	1620 kHz (W-type) 1611 kHz (E & B-type)	T202 (Figure 3)	Adjust T202 for maximum waveform on oscilloscope. (See Fig.8)

LED Signal-Strength Display Circuit Adjustment

STEP	AM SG FREQUENCY/ CARIBLATION	MODULATING FREQUENCY/ MODULATION	SWITCHES OF THE RECEIVER	LED FREQUENCY DISPLAY	ADJUSTMENT POINT	REMARK
1	600 kHz/70 dBμ (W-type) 603 kHz/70 dBμ (E & B-type)	400 Hz/30 %	A. POWER to "ON" B. SELECTOR to "TUNER" C. BAND to "AM"	600 kHz (W-type) 603 kHz (E & B-type)	HVR201 (Figure 3)	Adjust until five signal-strength display LED's light up.
2	(No signal)					Check that any signal-strength display LED no longer lights up.

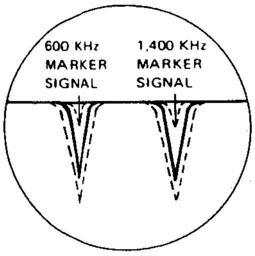


Figure 5 AM Frequency Coverage

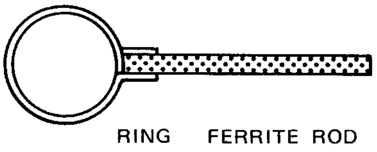


Figure 6 Apparatus

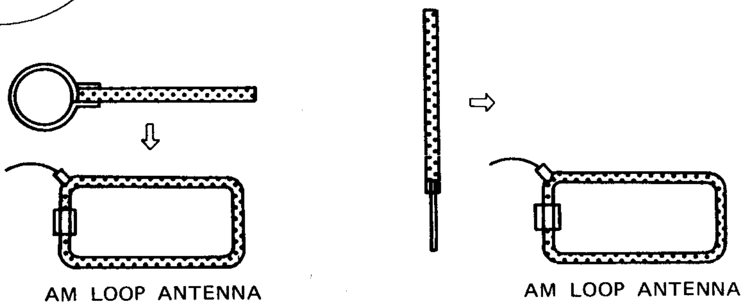


Figure 7 Tracking Errors

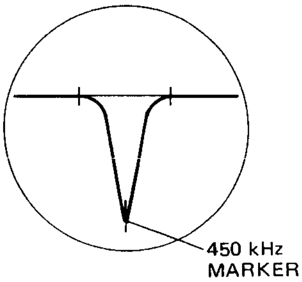


Figure 8 AM IF

POWER AMPLIFIER SECTION

Idling Current Adjustment

The adjustment done for this section is only for the idling current. But since this model does not have any semi-fixed resistors for this adjustment, the adjustment is done by choosing whether the fixed resistor are to short or not.

In the case of exchanging power transistors etc. during service, as the idling current gets too large or too small, the distortion gets large, must thoroughly make certain of the effects after exchange has been made.

1. The high-sensitivity DC voltmeter is connected to the test point on the printed circuit board. (The left channel is connected to the terminals TP1 and TP2. The positive side is the terminal TP1. The right channel is connected to the terminals TP3 and TP4. The positive side is the terminal TP3.)

2. The input signal is not added at all. Simply, the volume is turned counter-clockwise to minimum.

3. The voltage drop occuring in the resistor (R753, R754) connected to the emitter of the power transistor measured by the DC voltmeter is shown. Adjustment is not necessary if this voltage variation remains between 3.3 mV and 14.1 mV. (2.4 mV and 9.9 mV for NR-800.)
4. In the case when the voltage variation is greater than this range, the jumper wire which shorts the resistors R741 and R742 must be cut. (Refer to PC BOARD on page 14 and 15.)

   In the case when the jumper wire has already been cut or the voltage does not come in range even though the jumper wire has been cut, there might be some other influences which need to be taken account of. But if the variation is less than 28.2 mV (19.8 mV for NR-800) and no other defects are found, no further modifications are necessary.

5. In the case when the voltage variation is lower than the applicable range, for most cases it can be said that the jumper wire, which shorts the resistors R741 and R742, must have already been cut. So again, a short jumper wire is connected to the printed circuit board to short the resistors. In the case when the jumper wire has not already been cut from the beginning or the variation is not in the range even though the jumper wire is connected, it must be though that some other defects exist.

NOTE: Until the power transistor and the neighboring radiators reach a certain temperature, the idling current changes little by little and takes at least 5 minutes to settle. Therefore, when adjusting the idling current, have to wait for a while after turning on the power switch of the amplifier till everything gets stable before start to make adjustments.

POWER TRANSISTORS MOUNTING ASSEMBLY

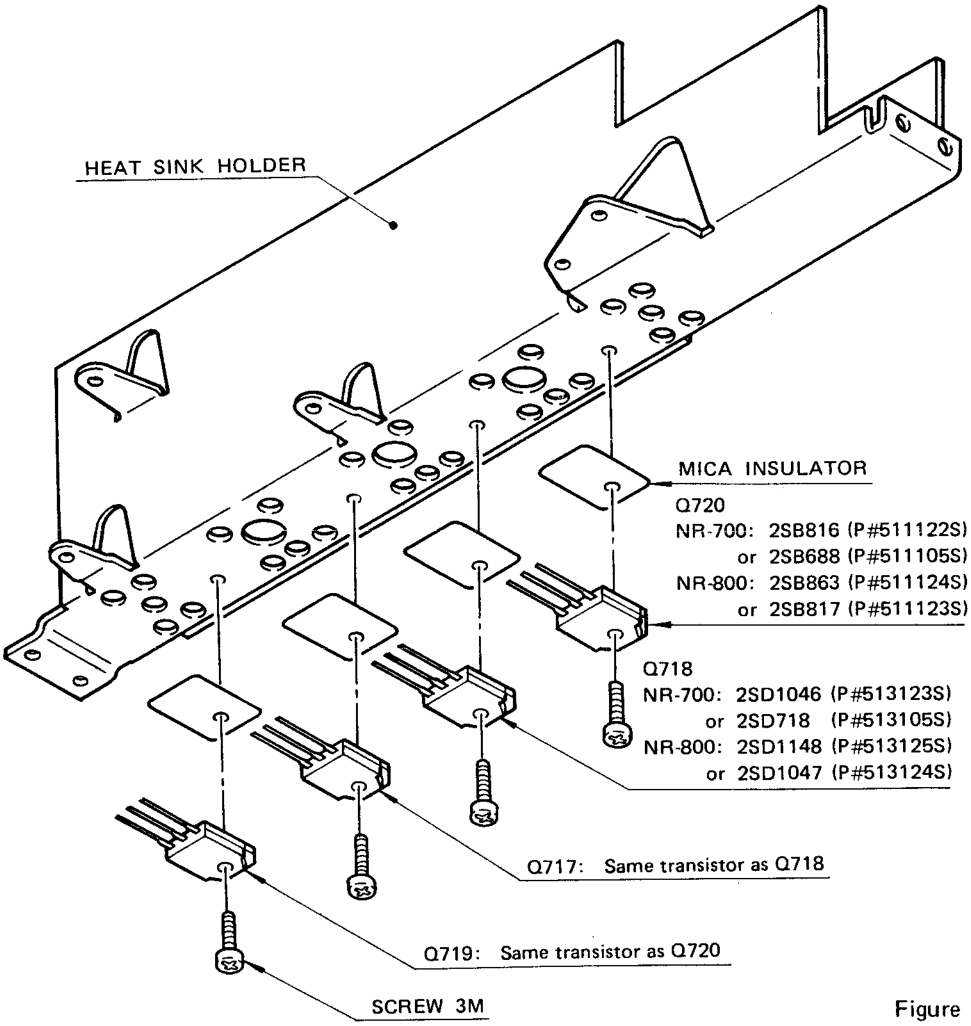

HEAT SINK HOLDER
MICA INSULATOR
Q720
NR-700: 2SB816 (P#511122S)
or 2SB688 (P#511105S)
NR-800: 2SB863 (P#511124S)
or 2SB817 (P#511123S)
Q718
NR-700: 2SD1046 (P#513123S)
or 2SD718 (P#513105S)
NR-800: 2SD1148 (P#513125S)
or 2SD1047 (P#513124S)
Q717: Same transistor as Q718
Q719: Same transistor as Q720
SCREW 3M

Figure 9

NOTE: For best heat conduction, use thermally conductive silicon grease between the power transistor and the mica insulator and between the insulator and the heat sink.

PRECAUTIONS FOR REPAIR SERVICE

Many of these items are included just as a reminder – they are normal procedures for experienced technicians. Short-cuts can be taken: but, often they cause additional damage to transistors, circuit components or the printed circuit board.

1. **Do not** bridge electrolytic capacitors with AC power. The resultant surges may damage solid state devices.
2. **Do not** bias the base of any transistor while voltage is being applied to its collector.
3. Replacements for output and driver transistors, if necessary, must be made from the same **hfe** group as the original type. Be sure to include this information when ordering replacement transistors.
4. If one output transistor burns out (open or shorts), always remove **all** output transistors in that channel and check the bias adjustment, the control and other parts in the network with an ohmmeter before inserting a new transistor. All output transistors in one channel will be destroyed if the base biasing circuit is open in the emitter end.
5. Replacement of transistors and components in the front-end, IF stage and multiplex decoder will not normally require realignment of these circuits, unless absolutely necessary. **Do not** attempt a realignment unless the required test equipment is available and the alignment procedure is thoroughly understood.

PARTS LOCATION

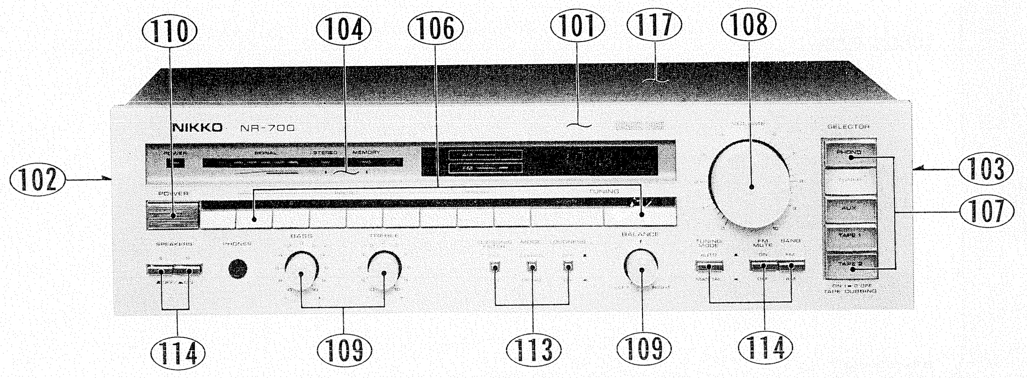

110
104
106
101
117
108
NIKKO NR-700
102
103
107
114
109
113
109
114

Photo 3 - 1 NR-700

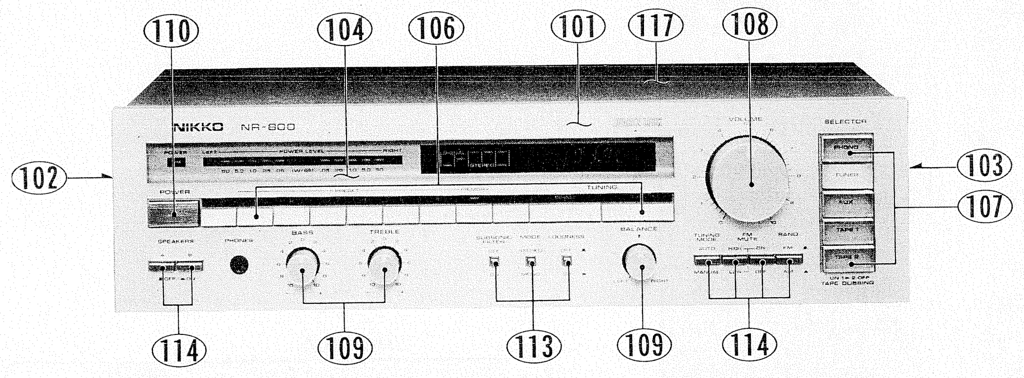

110
104
106
101
117
108
NIKKO NR-800
102
103
107
114
109
113
109
114

Photo 3 - 2 NR-800

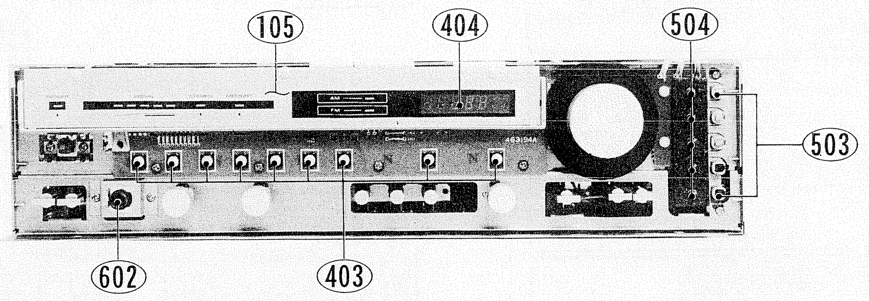

105
404
504
503
602
403

Photo 4 - 1 NR-700

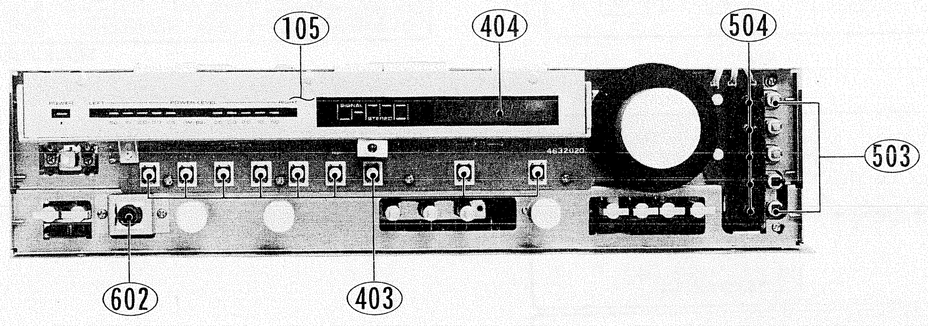

105
404
504
503
602
403

Photo 4 - 2 NR-800

PARTS LOCATION

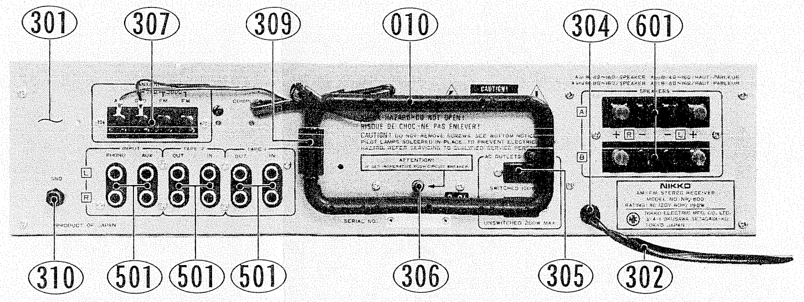

301
307
309
010
304
601
310
501
501
501
306
305
302

Photo 5 NR-700/800

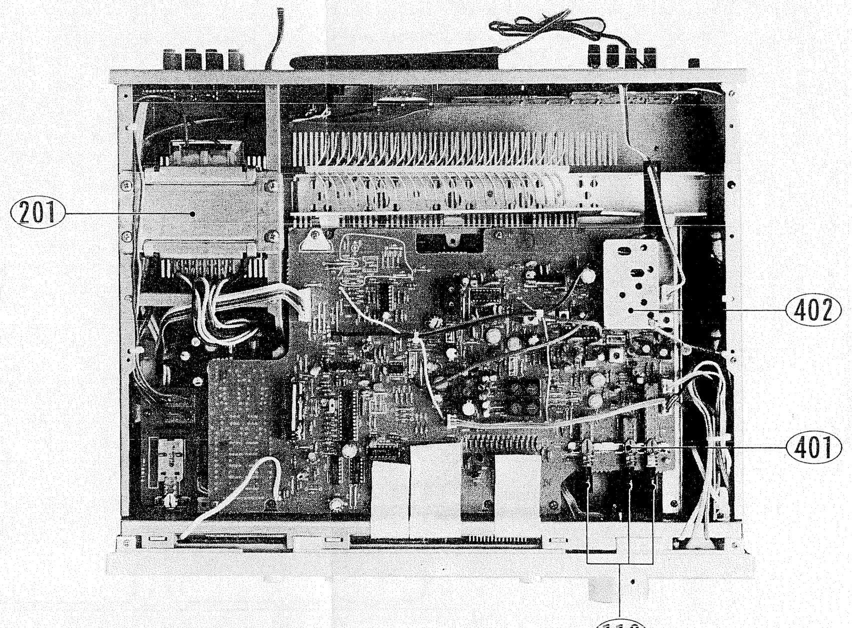

201
402
401

Photo 6 - 1 NR-700

116

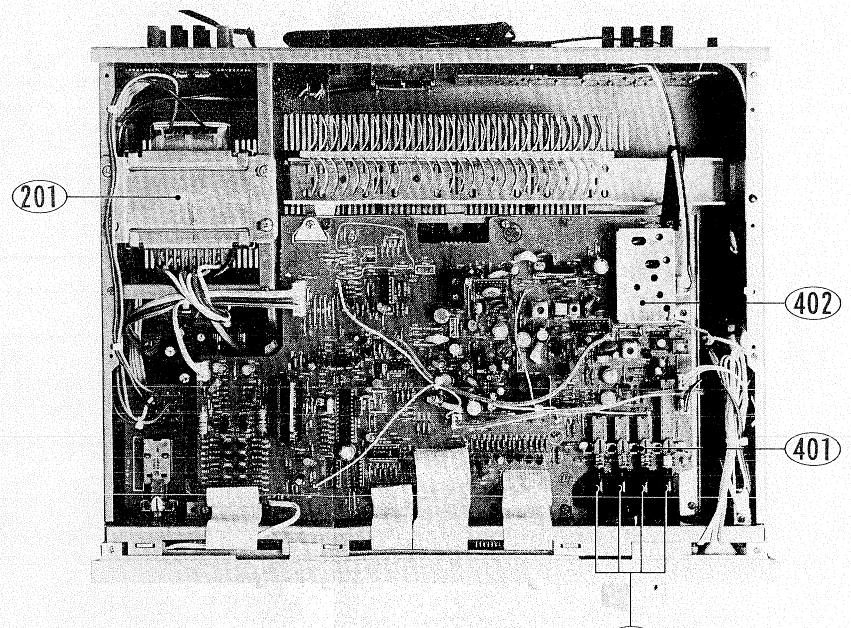
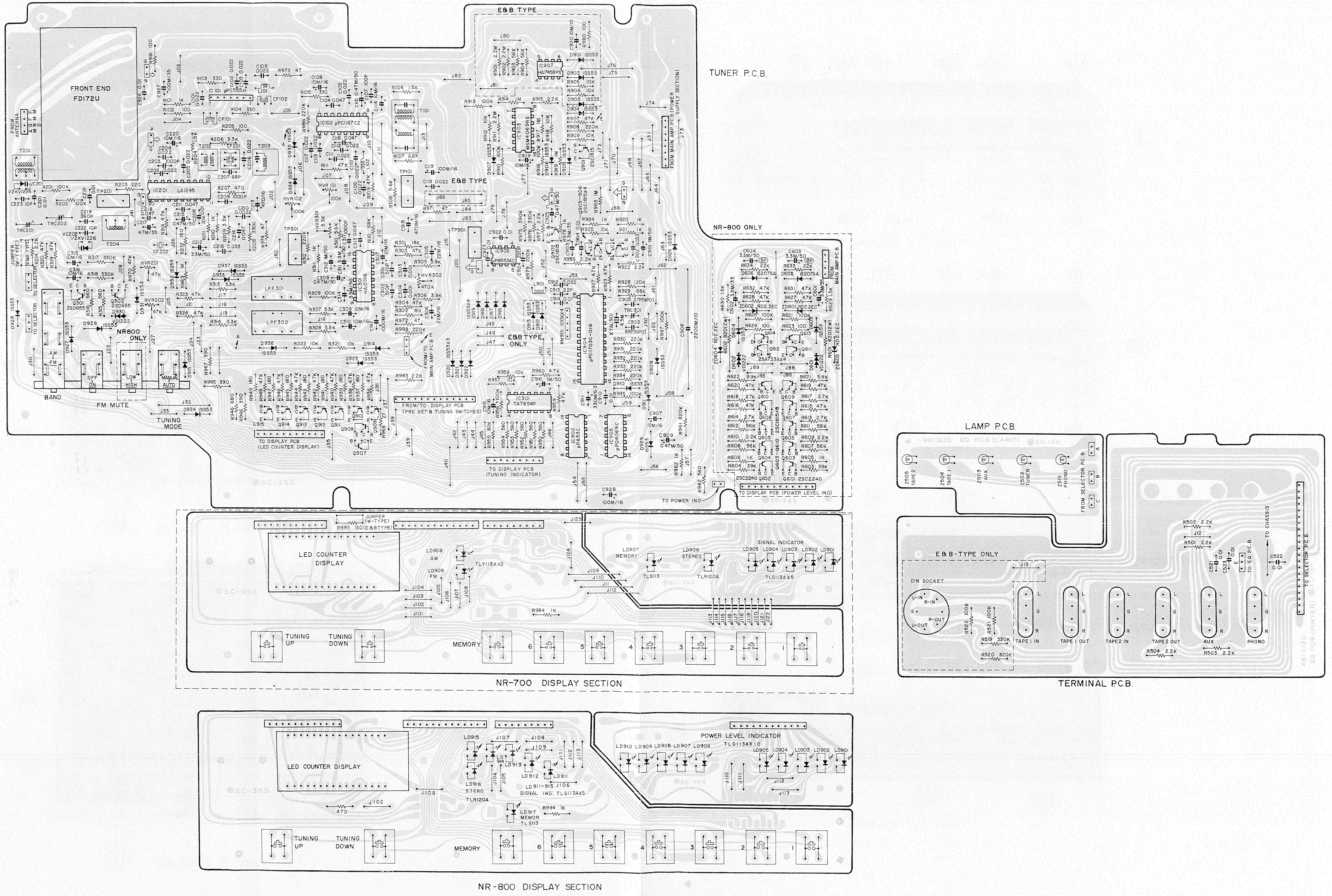

201
402
401

Photo 6 - 2 NR-800

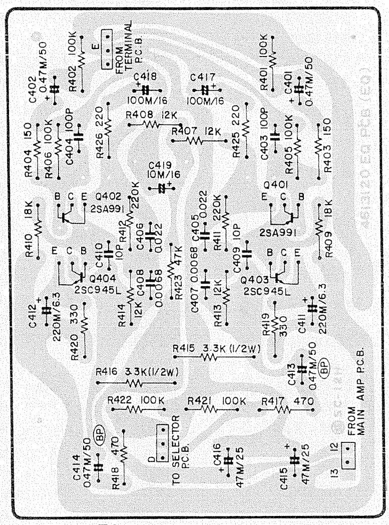
116

PC BOARD Figure 10 (CONDUCTIVE SIDE VIEW)

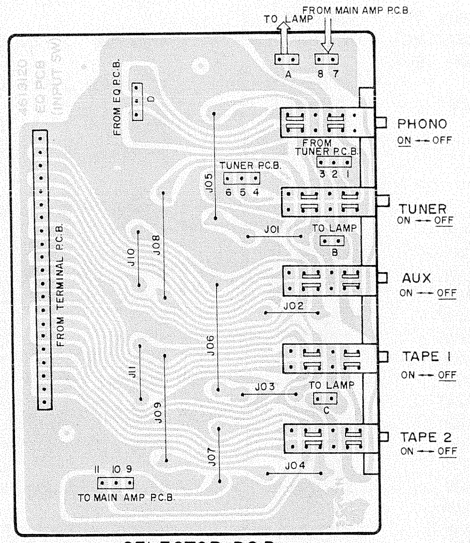

TUNER P.C.B.
FRONT END FD172U
FROM ANTENNA
E&B TYPE
NR-800 ONLY
NR800 ONLY
E&B TYPE ONLY
BAND
FM MUTE
TUNING MODE
AM FM
OFF ON
LOW HIGH
MANUAL AUTO
LPF301
LPF302
FROM MAIN AMP PCB (POWER SUPPLY SECTION)
FROM/TO MAIN AMP P.C.B.
FROM/TO DISPLAY PCB (PRE SET & TUNING SWITCHES)
TO DISPLAY PCB (LED COUNTER DISPLAY)
TO DISPLAY PCB (TUNING INDICATOR)
TO DISPLAY PCB (POWER LEVEL IND)
FROM MAIN AMP PCB
TO POWER IND
TO SELECTOR
JUMPER (W-TYPE)
LAMP P.C.B.
FROM SELECTOR P.C.B.
TAPE 2
TAPE 1
AUX
TUNER
PHONO
TERMINAL P.C.B.
E&B-TYPE ONLY
DIN SOCKET
TAPE 1 IN
TAPE 1 OUT
TAPE 2 IN
TAPE 2 OUT
AUX
PHONO
TO CHASSIS
TO EQ P.C.B.
TO SELECTOR P.C.B.
LED COUNTER DISPLAY
SIGNAL INDICATOR
MEMORY
STEREO
TUNING UP
TUNING DOWN
MEMORY
6
5
4
3
2
1
NR-700 DISPLAY SECTION
POWER LEVEL INDICATOR
LED COUNTER DISPLAY
NR-800 DISPLAY SECTION

NOTE:
DOUBLE DESIGNATED RESISTANCE VALUES
INDICATE FOR NR-700/FOR NR-800

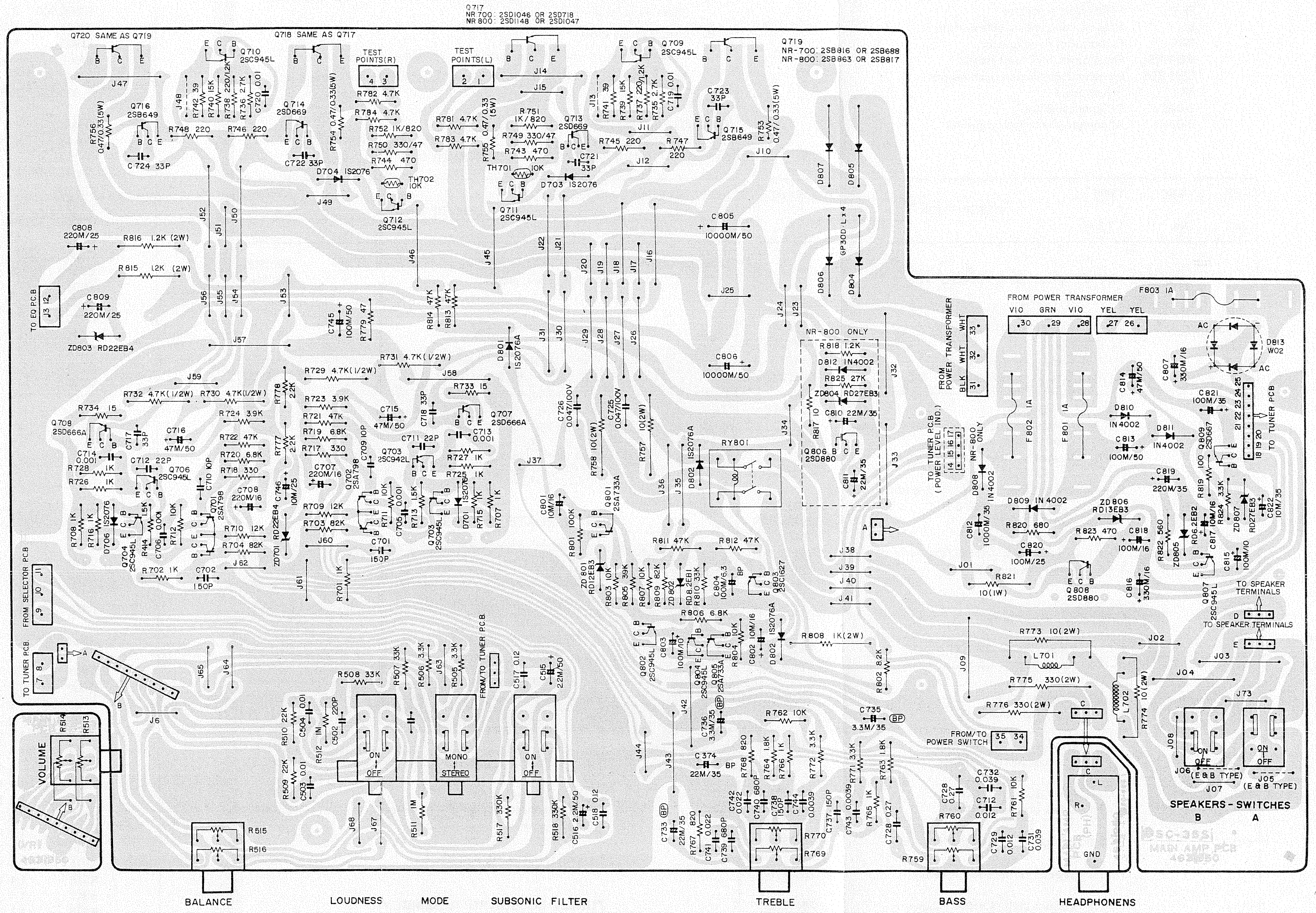
MAIN AMP P.C.B.


FROM TERMINAL P.C.B.
TO SELECTOR P.C.B.
FROM MAIN AMP P.C.B.
Q401
Q402 2SA991
Q403 2SC945L
Q404 2SC945L
E B C

EQUALIZER P.C.B.


FROM MAIN AMP P.C.B.
TO LAMP
FROM EQ P.C.B.
FROM TERMINAL P.C.B.
TUNER P.C.B.
FROM TUNER P.C.B.
PHONO
ON ←→ OFF
TUNER
ON ←→ OFF
AUX
ON ←→ OFF
TAPE 1
ON ←→ OFF
TAPE 2
ON ←→ OFF
TO LAMP
TO MAIN AMP P.C.B.

SELECTOR P.C.B.


Q717
NR-700: 2SD1046 OR 2SD718
NR-800: 2SD1148 OR 2SD1047
Q720 SAME AS Q719
Q718 SAME AS Q717
Q719
NR-700: 2SB816 OR 2SB688
NR-800: 2SB863 OR 2SB817
TEST POINTS(R)
TEST POINTS(L)
NR-800 ONLY
FROM POWER TRANSFORMER
V10 GRN V10 YEL YEL
F803 1A
F802 1A
F801 1A
RY801
TO EQ P.C.B.
FROM SELECTOR P.C.B.
TO TUNER P.C.B.
FROM/TO TUNER P.C.B.
TO TUNER P.C.B. (POWER LEVEL IND.)
FROM/TO POWER SWITCH
TO SPEAKER TERMINALS
SPEAKERS - SWITCHES
B A
ON OFF
(E & B TYPE)
VOLUME
BALANCE
LOUDNESS
MODE
MONO
STEREO
SUBSONIC FILTER
TREBLE
BASS
HEADPHONENS

PARTS LIST

NOTES:

1. ★ The REF. NUMBER (#) marked with a (★) on parts list related to number of three digits with a ( ). (Photo 3 ~ 6)
2. + Numberals in file indicate the quantity of parts used in one type.
   (1) NR-700 U. S. A. & Canada model.
   (2) NR-700 Europe & U. K. model.
   (3) NR-800 U. S. A. & Canada model.
   (4) NR-800 Europe & U. K. model.
3. ++
   TR : Transistor
   FET : Field effect transistor
   VR : Volume control (Variable resistor)
   RES : Carbon film fixed resistor
   MO-RES : Metal oxide film fixed resistor
   CEM-RES : Cemented wirewound fixed resistor
   FP : Flame proof
   C-CAP : Ceramic capacitor
   E-CAP : Aluminum electrolytic capacitor
   M-CAP : Polyester film capacitor
   S-CAP : Polystyrene film capacitor
   T-CAP : Tantalum electrolytic capacitor
   BP-CAP : Bipolar electrolytic capacitor
   LC-CAP : Low current leakage electrolytic capacitor
4. Assemblies and parts are subject to change without notice.
5. Parts ordering procedure :
   A. DO NOT USE THE "REFERENCE" number and "SYMBOL" NUMBER. (these are control # for the factory only)
   B. Include in any order
   a. Part number. b. Part description. c. Model number.
   (any of the above lacking from an order may delay shipment of that order.)

WARNING :

⚠ INDICATES SAFETY CRITICAL COMPONENTS.
FOR CONTINUED SAFETY, REPLACE SAFETY CRITICAL COMPONENTS ONLY WITH MANUFACTURER'S RECOMMENDED PARTS.

REF. No.	SYMBOL No.	TYPE^{+} 1 2 3 4	DESCRIPTION^{++}	PART No.
			PACKING MATERIALS & ACCESSORIES	
001a		1 1 — —	Carton box, NR-700	9826050
001b		— — 1 1	Carton box, NR-800	9826040
002		2 2 2 2	Pad	9841040
003		1 1 1 1	Sack, polyethylen cloth	9640730
004		1 1 1 1	Sack, polyethylen cloth — #13	9640320
005a		1 — — —	Manual, instructions — in English and French — NR-700	960352E
005b		— 1 — —	Manual, instructions — in English, French and German — NR-700	960352T
006a		— — 1 —	Manual, instructions — in English and French — NR-800	960353E
006b		— — — 1	Manual, instructions — in English, French and German — NR-800	960353T
007		1 — 1 —	Card, warranty	967043A
008		1 — 1 —	List, service stations	9690210
009		1 1 1 1	Antenna, FM — Q-MATCH	4581360
★010		1 1 1 1	Loop antenna, AM	1200470
			CABINET ASSEMBLY	
★101a		1 1 — —	Panel, front — NR-700	7885620
★101b		— — 1 1	Panel, front — NR-800	7885630
★102		1 1 1 1	Panel, left side	7403600
★103		1 1 1 1	Panel, right side	7403620
★104a		1 1 — —	Window, panel — NR-700	7870660
★104b		— — 1 1	Window, panel — NR-800	7870690
★105a		1 1 — —	Panel, display — NR-700	7802830
★105b		— — 1 1	Panel, display — NR-800	7802840
★106		1 1 1 1	Panel, pre-set, with pre-set buttons	7870680
★107		1 1 1 1	Selector buttons sub assembly	7852820
★108		1 1 1 1	Knob — 20SL-42DR — volume	7841550
★109		3 3 3 3	Knob — 20SL-16DR — others	7841570
★110		1 1 1 1	Button, push — P1327S — power	7852700
111		1 1 1 1	Stopper, for power button	7401460
112		1 1 1 1	Spring — C8001	7441410
★113		3 3 3 3	Button, push — P4SQSL — subsonic, mode, loudness	7852520
★114		5 5 6 6	Button, push — P414SL — others	7852500
115		5 5 5 5	Shaft, extension — 31M	7401890
★116		3 3 4 4	Shaft, extension — 57.5 M	7403670
★117		1 1 1 1	Cover, top	7821200
118		1 1 1 1	Plate, bottom	7326900
119		4 4 4 4	Foot, plastic	7402640
			CHASSIS ASSEMBLY	
⚠ ★201a		1 — — —	Transformer, power — T-1-435 — NR-700, AC120V	1104350
⚠ ★201b		— 1 — —	Transformer, power — T-1-436 — NR-700, AC220 or 240V	1104360
⚠ ★201c		— — 1 —	Transformer, power — T-1-437 — NR-800, AC120V	1104370
⚠ ★201d		— — — 1	Transformer, power — T-1-438 — NR-800, AC220 or 240V	1104380
			BACK PLATE ASSEMBLY	
⚠ ★301a		1 — — —	Plate, back — NR-700 (W)	7326920
⚠ ★301b		— 1 — —	Plate, back — NR-700 (E)	7326940
⚠ ★301c		— — 1 —	Plate, back — NR-800 (W)	7326930
⚠ ★301d		— — — 1	Plate, back — NR-800 (E)	7326950
⚠ ★302a		1 — 1 —	Cord, AC line — DP-70	606007A
⚠ ★302b		— 1 — 1	Cord, AC line — CEE-2T	600510A
⚠ ★302c		— 1 — 1	Cord, AC line — BS — U. K. only	600514A
⚠ ★304a		1 — 1 —	Bush, power cord — SR-3P-4	7400620
⚠ ★304b		— 1 — 1	Bush, power cord — SR-4N-4	7400690
⚠ ★305		1 — 1 —	Socket, AC outlet — 2P	4500210
⚠ ★306		1 — 1 —	Circuit breaker — NW-2S(N) 3.15A	4900870
★307		1 1 1 1	Terminal, antenna — 4P	4450630
★308		— 1 — 1	Connector, antenna — DIN type	4530620
★309		1 1 1 1	Holder, AM loop antenna	7403790
★310		1 1 1 1	Terminal, GND — 1P	4450570
			TUNER PC BOARD ASSEMBLY	
★401a	S1 ~ S3	1 1 — —	Switch, tri push — tuning mode, FM mute, band	4041910
★401b	S1 ~ S4	— — 1 1	Switch, tetra push — tuning mode, FM mute, band	4041920
★402		1 1 1 1	Front end — FD172U	4910200
			(SYNTHESIZER SECTION)	
	X-TAL901	1 1 1 1	Crystal, quartz — HC-18U — 4.5 MHz	1280790
	L901	1 1 1 1	Inductor 22μH	1210930

PART ORDERING PROCEDURE - - - - - DO NOT USE THE "REF." NUMBER AND "SYMBOL" NUMBER. (these are control # for the factory only.) Include in any order: a. Part number, b. Part description, c. Model number. (any of the above lacking from an order may delay shipment of the order.)

REF No.	SYMBOL No.	TYPE^{+} 1 2 3 4	DESCRIPTION^{++}	PART No.
	TRC901	1 1 1 1	Capacitor, trimmer — 40P	4241080
	IC901	1 1 1 1	IC TA7654P	518090S
	IC902	1 1 1 1	IC μPA53C	518100S
	IC903,905	2 2 2 2	IC MSM4069RS	518106S
	IC904	1 1 1 1	IC μPD1703C-016	518126S
	IC906	1 1 1 1	IC μPB553AC	518099S
	IC907	— 1 — 1	IC HA17458PS	518120S
	Q901 ~ Q915	15151515	TR 2SC1815 (Y or GR)	512107S
	D930	1 1 1 1	Diode VD1222	505019S
	Others	30303030	Diode 1SS53	501023S
	C901	1 1 1 1	E-CAP 1uf 50V	211510Q
	C902	1 1 1 1	M-CAP 0.033uf 5% 50V	222333J
	C903	1 1 1 1	T-CAP 3.3uf 35V	252413M
	C904	1 1 1 1	M-CAP 0.01uf 5% 50V	222103J
	C905	1 1 1 1	C-CAP 27pf 50V NPO	232270C
	C906	1 1 1 1	C-CAP 68pf 50V NPO	232680C
	C907	1 1 1 1	E-CAP 10uf 16V	211220Q
	C908	1 1 1 1	E-CAP 2200uf 10V	211142H
	C909	1 1 1 1	E-CAP 0.47uf 50V	211505Q
	C910	1 1 1 1	M-CAP 0.01uf 5% 50V	222103J
	C911	1 1 1 1	E-CAP 330uf 6.3V	211033Q
	C912	1 1 1 1	M-CAP 0.022uf +80, −20% 50V YG	231223Z
	C913	1 1 1 1	C-CAP 22pf 10% 50V SL	232220K
	C914	1 1 1 1	C-CAP 0.01uf +80, −20% 50V YG	231103Z
	C915	1 1 1 1	E-CAP 10uf 16V	211220Q
	C916	1 1 1 1	E-CAP 1uf 50V	211510Q
	C917	1 1 1 1	E-CAP 100uf 16V	211230Q
	C918	1 1 1 1	E-CAP 470uf 16V	211235Q
	C919	1 1 1 1	E-CAP 10uf 16V	211220Q
	C920	— 1 — 1	E-CAP 10uf 16V	211220Q
	C921	1 1 1 1	C-CAP 0.047uf +80, −20% 50V YG	231473Z
	C922	1 1 1 1	C-CAP 0.01uf +80, −20% 50V YG	231103Z
	C924	1 1 1 1	C-CAP 220pf 10% 50V SL	232221K
	C925	1 1 1 1	E-CAP 0.47uf 50V	211505Q
	C926	1 1 1 1	M-CAP 0.01uf 5% 50V	222103J
	C927	1 1 1 1	E-CAP 100uf 35V	211430Q
	C928	1 1 1 1	E-CAP 100uf 16V	211230Q
	RN901	1 1 1 1	Resistor network 100kohm x 4	519002K
	R901	— 1 — 1	RES 1meg.ohm 5% ¼W	328105J
	R902	— 1 — 1	RES 2.2meg.ohm 5% ¼W	328225J
	R903,904	— 2 — 2	RES 56kohm 5% ¼W	328563J
	R905,906	— 2 — 2	RES 10kohm 5% ¼W	328103J
	R907	1 1 1 1	RES 47kohm 5% ¼W	328473J
	R908	1 1 1 1	RES 220kohm 5% ¼W	328224J
	R909	1 1 1 1	RES 10kohm 5% ¼W	328103J
	R910	1 1 1 1	RES 100kohm 5% ¼W	328104J
	R911	1 1 1 1	RES 2.2meg.ohm 5% ¼W	328225J
	R912	1 1 1 1	RES 10kohm 5% ¼W	328103J
	R913	1 1 1 1	RES 100kohm 5% ¼W	328104J
	R914	1 1 1 1	RES 1meg.ohm 5% ¼W	328105J
	R915	1 1 1 1	RES 2.2kohm 5% ¼W	328222J
	R916	1 1 1 1	RES 100kohm 5% ¼W	328104J
	R917	1 1 1 1	RES 1meg.ohm 5% ¼W	328105J
	R918	1 1 1 1	RES 10kohm 5% ¼W	328103J
	R919	1 1 1 1	RES 1meg.ohm 5% ¼W	328105J
	R920	1 1 1 1	RES 1kohm 5% ¼W	328102J
	R921	1 1 1 1	RES 47kohm 5% ¼W	328473J
	R922	1 1 1 1	RES 2.2kohm 5% ¼W	328222J
	R923	1 1 1 1	RES 4.7kohm 5% ¼W	328472J
	R924,925	2 2 2 2	RES 10kohm 5% ¼W	328103J
	R926	1 1 1 1	RES 2.2kohm 5% ¼W	328222J
	R927	1 1 1 1	RES 4.7kohm 5% ¼W	328472J
	R928	1 1 1 1	RES 120kohm 5% ¼W	328124J
	R929	1 1 1 1	RES 68kohm 5% ¼W	328683J
	R930 ~ R934	5 5 5 5	RES 220kohm 5% ¼W	328224J
	R935	1 1 1 1	RES 100kohm 5% ¼W	328104J
	R936 ~ R948	7 7 7 7	RES 4.7kohm 5% ¼W	328472J
	R937 ~ R949	7 7 7 7	RES 180ohm 5% ¼W	328181J
	R950 ~ R954	2 2 2 2	RES 560ohm 5% ¼W	328561J
	R955	1 1 1 1	RES 82kohm 5% ¼W	328823J
	R956	1 1 1 1	RES 100kohm 5% ¼W	328104J
	R957,958	2 2 2 2	RES 10kohm 5% ¼W	328103J
	R959,960	2 2 2 2	RES 4.7kohm 5% ¼W	328472J
	R961	1 1 1 1	RES 820kohm 5% ¼W	328824J
	R962	1 1 1 1	RES 1kohm 5% ¼W	328102J
	R963	1 1 1 1	RES 1meg.ohm 5% ¼W	328105J
	R964	1 1 1 1	RES 680ohm 5% ¼W	328681J
	R965,966	2 2 2 2	RES 390ohm 5% ¼W	328391J
	R967	1 1 1 1	RES 390ohm 5% ¼W	328391J
	R968	1 1 1 1	RES 27ohm 5% ¼W	328270J
	R969	1 1 1 1	RES 1kohm 5% ¼W	328102J
	R970	1 1 1 1	RES 47kohm 5% ¼W	328473J
	R971 ~ R974	4 4 4 4	FP-RES 47ohm 5% ¼W	328470L
	R975	1 1 1 1	RES 390kohm 5% ¼W	328394J
	R976	1 1 1 1	RES 330kohm 5% ¼W	328334J
	R977	1 1 1 1	RES 2.2kohm 5% ¼W	328222J
	R978	1 1 1 1	RES 1kohm 5% ¼W	328102J
	R979	1 1 1 1	RES 220kohm 5% ¼W	328224J
	R980	— 1 — 1	RES 100ohm 5% ¼W	328101J
	R981	1 1 1 1	FP-RES 100ohm 5% ¼W	328101L
	R982	1 1 1 1	RES 560ohm 5% ¼W	328561J
	R983	1 1 1 1	RES 2.2kohm 5% ¼W	328222J
	R986,988	2 2 2 2	RES 220kohm 5% ¼W	328224J
	R987	1 1 1 1	RES 100kohm 5% ¼W	328104J
			(FM IF SECTION)	
	T101	1 1 1 1	Coil, FM descriminator	1240480
	L101,102	2 2 2 2	Coil — 2.2uH	1210990
	CF101,102	2 2 2 2	Ceramic filter — SFE-10.7M-S2GY (red)	128075A
	IC101	1 1 1 1	IC μPC555H	518029S
	IC102	1 1 1 1	IC μPC1167C2	518124S
	C101 ~ C103	3 3 3 3	C-CAP 0.022uf +80, −20% 50V YG	231223Z
	C104	1 1 1 1	C-CAP 0.047uf +80, −20% 50V YG	231473Z
	C105,106	2 2 2 2	C-CAP 0.022uf +80, −20% 50V YG	231223Z
	C107	1 1 1 1	C-CAP 100pf 10% 50V SL	232101K
	C108	1 1 1 1	E-CAP 10uf 16V	211220Q
	C109 ~ C111	3 3 3 3	C-CAP 0.022uf +80, −20% 50V YG	231223Z
	C112	1 1 1 1	T-CAP 0.47uf 35V	252405M
	C113	1 1 1 1	C-CAP 0.022uf +80, −20% 50V YG	231223Z
	C114	1 1 1 1	E-CAP 10uf 16V	211220Q
	C115	1 1 1 1	E-CAP 0.47uf 50V	211505Q
	C116	1 1 1 1	C-CAP 0.047uf +80, −20% 50V YG	231473Z
	C117,118	2 2 2 2	C-CAP 0.022uf +80, −20% 50V YG	231223Z
	C119	1 1 1 1	E-CAP 100uf 16V	211230Q
	HVR101,102	2 2 2 2	Potentiometer — 100kohm	4301140
	R101	1 1 1 1	RES 1kohm 5% ¼W	328102J
	R102	1 1 1 1	RES 100ohm 5% ¼W	328101J
	R103 ~ R105	3 3 3 3	RES 330ohm 5% ¼W	328331J
	R106	1 1 1 1	RES 1.5kohm 5% ¼W	328152J
	R107	1 1 1 1	RES 6.8kohm 5% ¼W	328682J
	R108	1 1 1 1	RES 5.6kohm 5% ¼W	328562J
	R109	1 1 1 1	RES 4.7kohm 5% ¼W	328472J
	R110	1 1 1 1	RES 68kohm 5% ¼W	328683J
	R111	1 1 1 1	RES 47kohm 5% ¼W	328473J

PART ORDERING PROCEDURE ----- DO NOT USE THE "REF." NUMBER AND "SYMBOL" NUMBER. (these are control # for the factory only.) Include in any order: a. Part number, b. Part description, c. Model number. (any of the above lacking from an order may delay shipment of the order.)

REF No.	SYMBOL No.	TYPE⁺ 1 2 3 4	DESCRIPTION⁺⁺	PART No.
			(MPX SECTION)	
	LPF301,302	2 2 2 2	Low pass filter – FB22F01	1280710
	IC301	1 1 1 1	IC HA12016	518109S
	Q301,302	2 2 2 2	TR 2SD655 (D or E)	513115S
	C301,302	2 2 2 2	S-CAP 510pf 5% 50V	223511V
	C303,304	2 – 2 –	M-CAP 0.001uf 5% 50V	222102J
	C303,304	– 2 – 2	S-CAP 560pf 5% 50V	223561V
	C305,306	2 2 2 2	E-CAP 22uf 16V	211222Q
	C307	1 1 1 1	E-CAP 10uf 16V	211220Q
	C308	1 1 1 1	E-CAP 0.47uf 50V	211505Q
	C309,310	2 2 2 2	E-CAP 10uf 16V	211220Q
	C311	1 1 1 1	E-CAP 3.3uf 50V	211513Q
	C312	1 1 1 1	E-CAP 1uf 50V	211510Q
	C313	1 1 1 1	M-CAP 0.047uf 5% 50V	222473J
	C314	1 1 1 1	E-CAP 3.3uf 50V	211513Q
	C315,316	2 2 2 2	E-CAP 10uf 16V	211220Q
	C317	1 1 1 1	S-CAP 1000pf 5% 50V	223102V
	HVR301	1 1 1 1	Potentiometer, metal-film 3.3kohm	4301320
	HVR302	1 1 1 1	Potentiometer 470kohm	4300740
	R301,302	2 2 2 2	RES 18kohm 5% ¼W	328183J
	R303,304	2 2 2 2	RES 47kohm 5% ¼W	328473J
	R305,306	2 2 2 2	RES 3.9kohm 5% ¼W	328392J
	R307,308	2 2 2 2	RES 3.3kohm 5% ¼W	328332J
	R309	1 1 1 1	RES 100kohm 5% ¼W	328104J
	R310	1 1 1 1	RES 5.6kohm 5% ¼W	328562J
	R311	1 1 1 1	RES 1kohm 5% ¼W	328102J
	R312	1 1 1 1	RES 220kohm 5% ¼W	328224J
	R313,314	2 2 2 2	RES 3.3kohm 5% ¼W	328332J
	R315,316	2 2 2 2	RES 560ohm 5% ¼W	328561J
	R317,318	2 2 2 2	RES 330kohm 5% ¼W	328334J
	R319,320	2 2 2 2	RES 47kohm 5% ¼W	328473J
	R321,322	2 2 2 2	RES 10kohm 5% ¼W	328103J
	R323,324	2 2 2 2	RES 4.7kohm 5% ¼W	328472J
			(AM SECTION)	
	T201	1 1 1 1	Coil, AM antenna	1200490
	T202	1 1 1 1	Coil, AM-IF	1230160
	T203	1 1 1 1	Coil, AM descriminator	1230220
	T204	1 1 1 1	Coil, AM oscillator	1220140
	CF201	1 1 1 1	Ceramic filter, AM – 450kHz	1280730
	CF202	1 1 1 1	Ceramic filter, AM – BFU450C4N	1280800
	TRC201,202	2 2 2 2	Capacitor, trimmer – CTY-122D	4241070
	IC201	1 1 1 1	IC LA1245	518130S
	VC201,202	1 1 1 1	Variable capacitance diode KV1226 – two elements	504005S
	C201	1 1 1 1	C-CAP 0.01uf +80, –20% 50V YG	231103Z
	C202,204	2 2 2 2	C-CAP 0.022uf +80,–20% 50V YG	231223Z
	C203	1 1 1 1	C-CAP 0.001uf 10% 50V SL	232102K
	C205,206	2 2 2 2	C-CAP 0.022uf +80, –20% 50V YG	231223Z
	C207	1 1 1 1	C-CAP 68pf 10% 50V SL	232680K
	C208	1 1 1 1	C-CAP 0.01uf +80, –20% 50V YG	231103Z
	C209	1 1 1 1	C-CAP 0.001uf 10% 50V SL	232102K
	C210	1 1 1 1	M-CAP 0.0022uf 5% 50V	222222J
	C211	1 1 1 1	C-CAP 0.047uf +80, –20% 50V YG	231473Z
	C212	1 1 1 1	E-CAP 3.3uf 50V	211513Q
	C213	1 1 1 1	E-CAP 470uf 16V	211235Q
	C214	1 1 1 1	M-CAP 0.047uf 5% 50V	222473J
	C215	1 1 1 1	E-CAP 0.47uf 50V	211505Q
	C216	1 1 1 1	M-CAP 0.033uf 5% 50V	222333J
	C217	1 1 1 1	E-CAP 4.7uf 35V	211415Q
	C218	1 1 1 1	C-CAP 0.047uf +80, –20% 50V YG	231473Z
	C219	1 1 1 1	S-CAP 360pf 5% 50V	223361V
	C220	1 1 1 1	E-CAP 10uf 16V	211220Q
	C221	1 1 1 1	C-CAP 0.01uf +80, –20% 50V YG	231103Z
	C222,223	2 2 2 2	C-CAP 10pf 50V NPO	232100C

REF No.	SYMBOL No.	TYPE⁺ 1 2 3 4	DESCRIPTION⁺⁺	PART No.
	HVR201,202	2 2 2 2	Potentiometer 47kohm	4300730
	R201,202	2 2 2 2	RES 100kohm 5% ¼W	328104J
	R203	1 1 1 1	RES 220ohm 5% ¼W	328221J
	R204	1 1 1 1	RES 1.5kohm 5% ¼W	328152J
	R205	1 1 1 1	RES 100ohm 5% ¼W	328101J
	R206	1 1 1 1	RES 3.3kohm 5% ¼W	328332J
	R207	1 1 1 1	RES 470ohm 5% ¼W	328471J
	R208	1 1 1 1	RES 330kohm 5% ¼W	328334J
	R209	1 1 1 1	RES 3.3kohm 5% ¼W	328332J
	R210	1 1 1 1	RES 1kohm 5% ¼W	328102J
	R211	1 1 1 1	RES 10kohm 5% ¼W	328103J
	R212	1 1 1 1	RES 150ohm 5% ¼W	328151J
	R213	1 1 1 1	RES 4.7kohm 5% ¼W	328472J
	R214	1 1 1 1	RES 2.2kohm 5% ¼W	328222J
			(POWER LEVEL INDICATOR SECTION – NR-800 ONLY)	
	Q601,602	– – 2 2	TR 2SC2240 (GR or BL)	512102S
	Q603 ~ Q610	– – 8 8	TR 2SC1815 (Y or GR)	512107S
	Q611 ~ Q614	– – 4 4	TR 2SA733A (P or Q)	514074S
	D601,602	– – 2 2	Diode VD1222	505019S
	D603,604	– – 2 2	Diode 1SS53	501023S
	D605,606	– – 2 2	Diode 1S2076A	501020S
	ZD601 ~ ZD604	– – 2 2	Zener diode RD2.2EC	502056S
	C601,602	– – 2 2	E-CAP 3.3uf 50V	211513Q
	C603,604	– – 2 2	BP-CAP 3.3uf 50V	215513N
	R601,602	– – 2 2	FP-MO-RES 820ohm 5% 2W	362821L
	R603,604	– – 2 2	RES 39kohm 5% ¼W	328393J
	R605,606	– – 2 2	RES 1kohm 5% ¼W	328102J
	R607,608	– – 2 2	RES 56kohm 5% ¼W	328563J
	R609,610	– – 2 2	RES 2.2kohm 5% ¼W	328222J
	R611,612	– – 2 2	RES 56kohm 5% ¼W	328563J
	R613,614	– – 2 2	RES 2.7kohm 5% ¼W	328272J
	R615,616	– – 2 2	RES 47kohm 5% ¼W	328473J
	R617,618	– – 2 2	RES 2.7kohm 5% ¼W	328272J
	R619,620	– – 2 2	RES 47kohm 5% ¼W	328473J
	R621,622	– – 2 2	RES 3.9kohm 5% ¼W	328392J
	R623,624	– – 2 2	RES 100ohm 5% ¼W	328101J
	R625,626	– – 2 2	RES 100kohm 5% ¼W	328104J
	R627,628	– – 2 2	RES 4.7kohm 5% ¼W	328472J
	R629,630	– – 2 2	RES 1.5kohm 5% ¼W	328152J
	R631,632	– – 2 2	RES 4.7kohm 5% ¼W	328472J
	R633,634	– – 2 2	RES 22kohm 5% ¼W	328223J
			(NR-700 DISPLAY SECTION)	
★403		9 9 – –	Switch, tact – EVQ-JR02K	4060090
★404		1 1 – –	LED counter display	5060460
	LD901 ~ LD905	5 5 – –	LED TLG113A – signal indicator, green	5060470
	LD906	1 1 – –	LED TLR120A – stereo indicator, red	5060480
	LD907	1 1 – –	LED TLS113 – memory indicator, red	5060540
	LD908,909	2 2 – –	LED TLY113A – band indicator, yellow	5060490
	R984	1 1 – –	RES 1kohm 5% ¼W	328102J
			(NR-800 DISPLAY SECTION)	
★403		– – 9 9	Switch, tact – EVQ-JR02K	5060470
★404		– – 1 1	LED counter display	5060460
	LD901 ~ LD915	– – 15 15	LED TLG113A – power level indicator/ signal indicator, green	5060470

PART ORDERING PROCEDURE -----DO NOT USE THE "REF." NUMBER AND "SYMBOL" NUMBER. (these are control # for the factory only.) Include in any order: a. Part number, b. Part description, c. Model number. (any of the above lacking from an order may delay shipment of the order.)

REF No.	SYMBOL No.	TYPE⁺ 1 2 3 4	DESCRIPTION⁺⁺	PART No.
	LE916	– – 1 1	LED TLR120A – stereo indicator, red	5060480
	LD917	– – 1 1	LED TLS113 – memory indicator, red	5060540
	R984	– – 1 1	RES 1kohm 5% ¼W	328102J

EQUALIZER PC BOARD ASSEMBLY

(EQ SECTION)

REF No.	SYMBOL No.	TYPE⁺ 1 2 3 4	DESCRIPTION⁺⁺	PART No.
	Q401,402	2 2 2 2	TR 2SA991 (E or F)	510104S
	Q403,404	2 2 2 2	TR 2SC945L (P or Q)	515077S
	C401,402	2 2 2 2	E-CAP 0.47uf 50V	211505Q
	C403,404	2 2 2 2	C-CAP 100pf 10% 50V SL	232101K
	C405,406	2 2 2 2	M-CAP 0.022uf 5% 50V	222223J
	C407,408	2 2 2 2	M-CAP 0.0068uf 5% 50V	222682J
	C409,410	2 2 2 2	C-CAP 10pf 10% 50V SL	232100K
	C411,412	2 2 2 2	E-CAP 220uf 6.3V	211032Q
	C413,414	2 2 2 2	BP-CAP 0.47uf 50V	215505N
	C415,416	2 2 2 2	E-CAP 47uf 25V	211325Q
	C417,418	2 2 2 2	E-CAP 100uf 16V	211230Q
	C419	1 1 1 1	E-CAP 10uf 16V	211220Q
	R401,402	2 2 2 2	RES 100kohm 5% ¼W	328104J
	R403,404	2 2 2 2	RES 150ohm 5% ¼W	328151J
	R405,406	2 2 2 2	RES 100kohm 5% ¼W	328104J
	R407,408	2 2 2 2	RES 12kohm 5% ¼W	328123J
	R409,410	2 2 2 2	RES 18kohm 5% ¼W	328183J
	R411,412	2 2 2 2	RES 220kohm 5% ¼W	328224J
	R413,414	2 2 2 2	RES 12kohm 5% ¼W	328123J
	R415,416	2 2 2 2	FP-RES 3.3kohm 5% ½W	329332L
	R417,418	2 2 2 2	RES 470ohm 5% ¼W	328471J
	R419,420	2 2 2 2	RES 330ohm 5% ¼W	328331J
	R421,422	2 2 2 2	RES 100kohm 5% ¼W	328104J
	R423	1 1 1 1	RES 47kohm 5% ¼W	328473J

(TERMINAL SECTION)

REF No.	SYMBOL No.	TYPE⁺ 1 2 3 4	DESCRIPTION⁺⁺	PART No.
★501		3 3 3 3	Terminal, RCA phono pin jack – 2P x 2	4444100
502		– 1 – 1	Connector, DIN type 5P	4530560
	C521 ~ C523	3 3 3 3	C-CAP 0.01uf +80, –20% 50V YG	231103Z
	R501 ~ R504	4 4 4 4	RES 2.2kohm 5% ¼W	328222J
	R519,520	– 2 – 2	RES 330kohm 5% ¼W	328334J
	R521,522	– 2 – 2	RES 100kohm 5% ¼W	328104J

(SELECTOR SWITCH SECTION)

REF No.	SYMBOL No.	TYPE⁺ 1 2 3 4	DESCRIPTION⁺⁺	PART No.
★503	S1 ~ S5	1 1 1 1	Switch, penta push – ESB62	4041840

(LAMP SECTION)

REF No.	SYMBOL No.	TYPE⁺ 1 2 3 4	DESCRIPTION⁺⁺	PART No.
★504	Z501 ~ Z505	5 5 5 5	Lamp – 14V 80mA	5802010

MAIN AMP PC BOARD ASSEMBLY

(INPUT SECTION)

REF No.	SYMBOL No.	TYPE⁺ 1 2 3 4	DESCRIPTION⁺⁺	PART No.
	S6 ~ S8	1 1 1 1	Switch, tri push – SUF-32 – subsonic/ mode/loudness	4041850
	R513,514	1 1 1 1	VR 250kohm (B) x 2 – volume	4321250
	R515,516	1 1 1 1	VR 100kohm (M, N) – balance	4321240
	C501,502	2 2 2 2	C-CAP 220pf 10% 50V SL	232221K
	C503,504	2 2 2 2	M-CAP 0.01uf 10% 50V	222103K
	C505,506	2 2 2 2	E-CAP 2.2uf 50V	211512Q
	C507,508	2 2 2 2	M-CAP 0.12uf 10% 50V	222124K
	R505,506	2 2 2 2	RES 3.3kohm 5% ¼W	328332J
	R507,508	2 2 2 2	RES 33kohm 5% ¼W	328333J
	R509,510	2 2 2 2	RES 22kohm 5% ¼W	328223J
	R511,512	2 2 2 2	RES 1meg.ohm 5% ¼W	328105J
	R517,518	2 2 2 2	RES 330kohm 5% ¼W	328334J

(MAIN AMP SECTION)

REF No.	SYMBOL No.	TYPE⁺ 1 2 3 4	DESCRIPTION⁺⁺	PART No.
	Q701,702	2 2 2 2	TR 2SA798 (F or G)	514086S
	Q703 ~ Q706	4 4 4 4	TR 2SC945L (P or Q)	515077S
	Q707,708	2 2 2 2	TR 2SD666A (B or C)	511020S
	Q709 ~ Q712	4 4 4 4	TR 2SC945L (P or Q)	515077S
	Q713,714	2 2 2 2	TR 2SD669 (B or C)	513104S
	Q715,716	2 2 2 2	TR 2SB649 (B or C)	511104S
	Q717,718	2 2 – –	TR 2SD1046 (D or E)	513123S
	Q719,720	2 2 – –	TR 2SB816 (D or E)	511122S
	Q717,718	2 2 – –	TR 2SD718 (R or O)	513105S
	Q719,720	2 2 – –	TR 2SB688 (R or O)	511105S
	Q717,718	– – 2 2	TR 2SD1047 (D or E)	513124S
	Q719,720	– – 2 2	TR 2SB817 (D or E)	511123S
	Q717,718	– – 2 2	TR 2SD1148 (R or O)	513125S
	Q719,720	– – 2 2	TR 2SB863 (R or O)	511124S
	D701 ~ D704	4 4 4 4	Diode 1S2076	501019S
	ZD701	1 1 1 1	Zener diode RD22EB4	502059S
	TH701,702	2 2 2 2	Thermistor D2FHL103S	540018S
	C701,702	2 2 2 2	C-CAP 150pf 10% 50V SL	232151K
	C705,706	2 2 2 2	M-CAP 0.001uf 10% 50V	222102K
	C707,708	2 2 2 2	E-CAP 220uf 16V	211232Q
	C709,710	2 2 2 2	C-CAP 10pf 10% 50V SL	232100K
	C711,712	2 2 2 2	C-CAP 22pf 10% 50V SL	232220K
	C713,714	2 2 2 2	M-CAP 0.001uf 10% 50V	222102K
	C715,716	2 2 2 2	E-CAP 47uf 50V	211525Q
	C717,718	2 2 2 2	C-CAP 33pf 10% 50V SL	232330K
	C719,720	2 2 2 2	M-CAP 0.01uf 10% 50V	222103K
	C721 ~ C724	4 4 4 4	C-CAP 33pf 10% 50V SL	232330K
	C725,726	2 2 2 2	M-CAP 0.047uf 10% 100V	226473K
	C745	1 1 1 1	E-CAP 100uf 50V	211530Q
	C746	1 1 1 1	E-CAP 10uf 25V	211320Q
	R701,702	2 2 2 2	RES 1kohm 5% ¼W	328102J
	R702,704	2 2 2 2	RES 82kohm 5% ¼W	328823J
	R707,708	2 2 2 2	RES 1kohm 5% ¼W	328102J
	R709,710	2 2 2 2	RES 12kohm 5% ¼W	328123J

PART ORDERING PROCEDURE -----DO NOT USE THE "REF." NUMBER AND "SYMBOL" NUMBER. (these are control # for the factory only.) Include in any order: a. Part number, b. Part description, c. Model number. (any of the above lacking from an order may delay shipment of the order.)

REF No.	SYMBOL No.	TYPE⁺ 1 2 3 4	DESCRIPTION⁺⁺	PART No.
	R711,712	2 2 2 2	RES 10kohm 5% ¼W	328103J
	R713,714	2 2 2 2	RES 1.5kohm 5% ¼W	328152J
	R715,716	2 2 2 2	RES 1kohm 5% ¼W	328102J
	R717,718	2 2 2 2	RES 330ohm 5% ¼W	328331J
	R719,720	2 2 2 2	RES 6.8kohm 5% ¼W	328682J
	R721,722	2 2 2 2	RES 47kohm 5% ¼W	328473J
	R723,724	2 2 2 2	RES 3.9kohm 5% ¼W	328392J
	R725 ~ R728	4 4 4 4	RES 1kohm 5% ¼W	328102J
	R729 ~ R732	4 4 4 4	FP-RES 4.7kohm 5% ½W	329472L
	R733,734	2 2 2 2	RES 15ohm 5% ¼W	328150J
	R735,736	2 2 2 2	RES 2.7kohm 5% ¼W	328272J
	R737,738	2 2 – –	RES 220ohm 5% ¼W	328221J
	R737,738	– – 2 2	RES 1.2kohm 5% ¼W	328122J
	R739,740	2 2 2 2	RES 15kohm 5% ¼W	328153J
	R741,742	2 2 2 2	RES 39ohm 5% ¼W	328390J
	R743,744	2 2 2 2	FP-RES 470ohm 5% ¼W	328471L
	R745 ~ R748	4 4 4 4	FP-RES 220ohm 5% ¼W	328221L
	R749,750	2 2 – –	FP-RES 330ohm 5% ¼W	328331L
	R749,750	– – 2 2	FP-RES 47ohm 5% ¼W	328470L
	R751,752	2 2 – –	FP-RES 1kohm 5% ¼W	328102L
	R751,752	– – 2 2	FP-RES 820ohm 5% ¼W	328821L
	R753 ~ R756	4 4 – –	CEM-RES 0.47ohm 10% 5W	384479W
	R753 ~ R756	– – 4 4	CEM-RES 0.33ohm 10% 5W	384339W
	R757,758	4 4 4 4	FP-MO-RES 10ohm 5% 2W	362100L
	R777,778	2 2 2 2	RES 2.2kohm 5% ¼W	328222J
	R779	1 1 1 1	FP-RES 47ohm 5% ¼W	328470L
	R781 ~ R784	4 4 4 4	RES 4.7kohm 5% ¼W	328472J

(TONE CONTROL SECTION)

REF No.	SYMBOL No.	TYPE⁺ 1 2 3 4	DESCRIPTION⁺⁺	PART No.
	VR759,760, VR769,770	2 2 2 2	VR 100kohm (C) x 2	4321040
	C727,728	2 2 2 2	M-CAP 0.27uf 10% 100V	281274K
	C729,730	2 2 2 2	M-CAP 0.012uf 5% 50V	222123J
	C731,732	2 2 2 2	M-CAP 0.039uf 5% 50V	222393J
	C733,734	2 2 2 2	BP-CAP 22uf 35V	215422C
	C735,736	2 2 2 2	BP-CAP 3.3uf 35V	215413C
	C737,738	2 2 2 2	C-CAP 150pf 10% 50V SL	232151K
	C739,740	2 2 2 2	C-CAP 680pf 10% 50V SL	232681K
	C741,742	2 2 2 2	M-CAP 0.022uf 5% 50V	222223J
	C743,744	2 2 2 2	M-CAP 0.0039uf 5% 50V	222392J
	R761,762	2 2 2 2	RES 10kohm 5% ¼W	328103J
	R763,764	2 2 2 2	RES 1.8kohm 5% ¼W	328182J
	R765,766	2 2 2 2	RES 1kohm 5% ¼W	328102J
	R767,768	2 2 2 2	RES 820ohm 5% ¼W	328821J
	R771,772	2 2 2 2	RES 3.3kohm 5% ¼W	328332J

(POWER SUPPLY & PROTECTOR SECTION)

REF No.	SYMBOL No.	TYPE⁺ 1 2 3 4	DESCRIPTION⁺⁺	PART No.
	RY801	1 1 1 1	Relay – FBR323 – DC24V	1700370
⚠	F801 ~ F803	3 – 3 –	Fuse – 1A 250V	4700590
⚠	F801 ~ F803	– 3 – 3	Midget fuse – T1A 250V	4720330
	Q801,805	2 2 2 2	TR 2SA733A (P or Q)	514074S
	Q802,804	2 2 2 2	TR 2SC945L (P or Q)	515077S
	Q803	1 1 1 1	TR 2SC1627 (O or Y)	511017S
	Q806	– – 1 1	TR 2SD880 (Y or GR)	513106S
	Q807	1 1 1 1	TR 2SC945L (P or Q)	515077S
	Q808	1 1 1 1	TR 2SD880 (Y or GR)	513106S
	Q809	1 1 1 1	TR 2SD667 (B or C)	511021S
	D801 ~ D803	3 3 3 3	Diode 1S2076A	501020S
	D804 ~ D807	4 4 4 4	Diode GP30D-L	560063S
	D808 ~ D812	4 4 5 5	Diode IN4002	560066S
	D813	1 1 1 1	Diode W02	560061S
	ZD801	1 1 1 1	Zener diode RD12EB3	502058S
	ZD802	1 1 1 1	Zener diode RD8.2EB1	502052S
	ZD803	1 1 1 1	Zener diode RD22EB4	502059S
	ZD804	– 1 – 1	Zener diode RD27EB3	502086S
	ZD805	1 1 1 1	Zener diode RD6.2EB2	502048S
	ZD806	1 1 1 1	Zener diode RD13EB3	502063S
	ZD807	1 1 1 1	Zener diode RD27EB3	502086S
	C801	1 1 1 1	E-CAP 10uf 35V	211420S
	C802	1 1 1 1	E-CAP 10uf 16V	211220Q
	C803	1 1 1 1	E-CAP 100uf 10V	211130S
	C804	1 1 1 1	BP-CAP 100uf 6.3V	215939C
	C805,806	2 2 2 2	E-CAP 10000uf 50V	2100060
	C807	1 1 1 1	E-CAP 330uf 16V	211233S
	C808,809	2 2 2 2	E-CAP 220uf 25V	211332Q
	C810,811	– – 2 2	E-CAP 22uf 35V	211422Q
	C812	1 1 1 1	E-CAP 1000uf 35V	211440S
	C813	1 1 1 1	E-CAP 100uf 50V	211530S
	C814	1 1 1 1	E-CAP 47uf 50V	211525S
	C815	1 1 1 1	E-CAP 100uf 10V	211330S
	C816	1 1 1 1	E-CAP 330uf 16V	211233S
	C817	1 1 1 1	E-CAP 10uf 16V	211220Q
	C818	1 1 1 1	E-CAP 100uf 16V	211230S
	C819	1 1 1 1	E-CAP 220uf 35V	211432S
	C820	1 1 1 1	E-CAP 100uf 25V	211330S
	C821	1 1 1 1	E-CAP 100uf 35V	211430S
	C822	1 1 1 1	E-CAP 10uf 35V	211420S
	R801	1 1 1 1	RES 100kohm 5% ¼W	328104J
	R802	1 1 1 1	RES 8.2kohm 5% ¼W	328822J
	R803,804	2 2 2 2	RES 10kohm 5% ¼W	328103J
	R805	1 1 1 1	RES 39kohm 5% ¼W	328393J
	R806	1 1 1 1	RES 6.8kohm 5% ¼W	328682J
	R807	1 1 1 1	RES 10kohm 5% ¼W	328103J
	R808	1 1 1 1	FP-MO-RES 1kohm 5% 2W	362102L
	R809	1 1 1 1	RES 82kohm 5% ¼W	328823J
	R810	1 1 1 1	RES 33kohm 5% ¼W	328333J
	R811 ~ R814	4 4 4 4	RES 47kohm 5% ¼W	328473J
	R815	1 1 1 1	FP-MO-RES 820ohm 5% 1W	361821L
	R816	1 1 1 1	FP-MO-RES 1.2kohm 5% 1W	361122L
	R817	– – 1 1	FP-RES 10ohm 5% ¼W	328100L
	R818	– – 1 1	FP-RES 1.2kohm 5% ¼W	328122L
	R819	1 1 1 1	FP-RES 100ohm 5% ¼W	328101L
	R820	1 1 1 1	FP-RES 680ohm 5% ¼W	328681L
	R821	1 1 1 1	FP-MO-RES 10ohm 5% 1W	361100L
	R822	1 1 1 1	FP-RES 560ohm 5% ¼W	328561L
	R823	1 1 1 1	FP-RES 470ohm 5% ¼W	328471L
	R824	1 1 1 1	FP-RES 3.3kohm 5% ¼W	328332L
	R825	– – 1 1	RES 27kohm 5% ¼W	328273J

(OUTPUT SECTION)

REF No.	SYMBOL No.	TYPE⁺ 1 2 3 4	DESCRIPTION⁺⁺	PART No.
★601		1 1 1 1	Terminal, speakers – 8P	4450640
★602		1 1 1 1	Jack, headphones	4550360
		1 1 1 1	Switch, twin push – SUF-22 – speakers A, B	4041250
	L701,702	2 2 2 2	Coil, choke – 1uH	1210960
	R773,774	2 2 2 2	FP-MO-RES 10ohm 5% 2W	362100L
	R775,776	2 2 2 2	FP-MO-RES 330ohm 5% 2W	362331L

POWER SWITCH PC BOARD ASSEMBLY

REF No.	SYMBOL No.	TYPE⁺ 1 2 3 4	DESCRIPTION⁺⁺	PART No.
⚠	S001	1 – 1 –	Switch, push – SDU-3P	4041990
⚠	S001	– 1 – 1	Switch, push – SDU-3PE	4042000

PART ORDERING PROCEDURE -----DO NOT USE THE "REF" NUMBER AND "SYMBOL" NUMBER. (these are control # for the factory only.) Include in any order: a. Part number, b. Part description, c. Model number. (any of the above lacking from an order may delay shipment of the order.)

REF No.	SYMBOL No.	TYPE+ 1 2 3 4	DESCRIPTION++	PART No.
⚠	F001	−1−1	Midget fuse − T1.6A 250V	4720360
⚠	C001	1−1−	M-CAP 0.01uf	284103M

REF No.	SYMBOL No.	TYPE+ 1 2 3 4	DESCRIPTION++	PART No.
⚠	C001	−1−1	M-CAP 0.01uf 250V	283103M
⚠	R001	1−1−	RES 2.2meg.ohm 10% ½W	325225K

SEMICONDUCTOR

TRANSISTORS

† NOTES

Ge : Germanium
Si : Sillicon

A : Alloy
B : Base
D : Diffused
Dd : Double-diffused

Df : Drift-field
E : Epitaxial
G : Grown
J : Junction

M : Mesa
P : Planer
Pc : Point-contact
Td : Triple-diffused

DEVICE TYPE	APPLICATIONS	STRUCTURE†	MAXIMUM RATINGS Absolute-Maximum Values: (T_A = 25°C unless otherwise specified)					ELECTRICAL CHARACTERISTICS Typical Values: (T_A = 25°C unless otherwise specified)													MANUFACTURER
			Collector-to-Base Voltage V_{CBO} (V)	Emitter-to-Base Voltage V_{EBO} (V)	Collector Current I_C (mA)	Collector Dissipation P_C (mW)	Junction Temperature T_J (°C)	Collector Cutoff Current I_{CBO} (uA)	V_{CB} (V)	Static Forward-Current Transfer Ratio h_{FE}	V_{CE} (V)	I_C (mA)	Collector-Emitter Saturation Voltage $V_{CE(sat)}$ (V)	I_C (mA)	I_B (mA)	Gain-Bandwidth Product f_T f_{ab}* (MHz)	V_{CE} V_{CB}* (V)	I_E I_C* (mA)	Output Capacitance C_{ob} (pF)	Others	
2SA733A (P, Q)	AF, General	PNP Si-E	−60	−5	−100	250	125	−0.1 max.	−60	135 ~ 400	−6	−1	−0.3 max.	−100	−10	450 max.	−6	−10*	6 max.		NEC
2SA798 (F, G)	AF, Low noise diff. amp.	PNP Si-EP	−70	−5	−100	200/unit	125	−0.1 max	−50	250 ~ 800	−6	−1	−0.6 max.	−10	−1	100	−6	−1*	3	Dual transistor	MITSUBISHI
2SA991 (E, F)	AF, Low noise	PNP Si-E	−60	−5	−100	500	125	−0.05 max.	−60	300 ~ 800	−6	−1	−0.5 max.	−100	−10	90	−6	1	10 max.		NEC
2SB649 (B, C)	AF, Driver	PNP Si-E	−180	−5	−1.5A	20W (Tc=25°C)	150	−10 max.	−160	60 ~ 200	−5	−150	−1 max.	−500	−50	140	−5	−150*	27	Complementary to 2SD669	HITACHI
2SB688 (R, O)	AF, Power amp.	PNP Si-Td	−120	−5	−8A	80W (Tc=25°C)	150	−10 max.	−120	55 ~ 160	−5	−1A	−2.5 max	−5A	500	10	−5	−1A*	280	Complementary to 2SD718	TOSHIBA
2SB816 (D, E)	AF, Power amp.	PNP Si-TdP	−150	−6	−8A	80W (Tc=25°C)	150	−100 max.	−80	60 ~ 200	−5	−1A	−2 max.	−5A	−500	15	−5	−1A*	220	Complementary to 2SD1046	SANYO
2SB817 (D, E)	AF, Power amp.	PNP Si-TdP	−160	−6	−12A	100W (Tc=25°C)	150	−100 max	−80	60 ~ 200	−5	−1A	−1.1 max.	−5A	−500	15	−5	−1A*	300	Complementary to 2SD1047	SANYO
2SB863 (R, O)	AF, Power amp.	PNP Si-Td	−140	−5	−10A	100W (Tc=25°C)	150	−5 max	−140	55 ~ 160	−5	−1A	−2 max.	−5A	−500	15	−10	−1A*	400	Complementary to 2SD1148	TOSHIBA
2SC945L (P, Q)	AF, General	NPN Si-E	60	5	100	250	125	0.1 max.	60	135 ~ 400	6	1	0.3 max	100	10	450 max.	6	10	5 max.		NEC
2SC1627 (O, Y)	AF, Driver	NPN Si-EP	80	5	300	600	150	0.1 max.	50	70 ~ 240	2	50	0.5 max.	200	10	100	10	10*	10		TOSHIBA
2SC1815 (Y, GR)	AF, General	NPN Si-E	60	5	150	400	125	0.1 max.	60	120 ~ 400	6	2	0.25 max.	100	10	80 min.	10	1*	3 max.		TOSHIBA
2SC2240 (GR, BL)	AF, Low noise	NPN Si-E	120	5	100	300	125	0.1 max	120	200 ~ 700	6	2	0.3 max	10	1	100	6	1*	3		TOSHIBA
2SD655 (D, E)	AF, Power amp. Muting	NPN Si-E	30	5	700	500	150	1 max	20	250 ~ 800	1	150	0.5 max.	500	50	250	1	150*			HITACHI
2SD666A (B, C)	AF, Driver	NPN Si-E	120	5	50	900	150	10 max	100	60 ~ 200	5	10	2 max.	30	3	140	5	10*	3		HITACHI
2SD667 (B, C)	AF, Driver	NPN Si-E	120	5	1A	900	150	10 max.	100	60 ~ 200	5	150	1 max.	500	50	140	5	150*	12		HITACHI
2SD669 (B, C)	AF, Driver	NPN Si-E	180	5	1.5A	1W	150	10 max.	160	60 ~ 200	5	150	1 max.	500	50	140	5	500*	14	Complementary to 2SB649	HITACHI
2SD718 (R, O)	AF, Power amp.	NPN Si-Td	120	5	8A	80W (Tc=25°C)	150	10 max	120	55 ~ 160	5	1A	2.5 max.	5A	500	12	5	1A*	170	Complementary to 2SB688	TOSHIBA
2SD880 (Y, GR)	AF, Power amp.	NPN Si-Td	60	5	3A	30W (Tc=25°C)	150	100 max.	60	100 ~ 300	5	500	1 max.	3A	300	3	5	500*	70		TOSHIBA
2SD1046 (D, E)	AF, Power amp.	NPN Si-TdP	150	6	8A	80W (Tc=25°C)	150	100 max.	80	60 ~ 200	5	1A	2 max	5A	500	15	5	1A*	160	Complementary to 2SB816	SANYO
2SD1047 (D, E)	AF, Power amp.	NPN Si-TdP	160	6	12A	100W (Tc=25°C)	150	100 max.	80	60 ~ 200	5	1A	2.5 max.	5A	500	15	5	1A*	210	Complementary to 2SB817	SANYO
2SD1148 (R, O)	AF, Power amp.	NPN Si-Td	140	5	10A	100W (Tc=25°C)	150	5 max.	140	55 ~ 160	5	1A	2 max.	5A	500	20	10	1A*	200	Complementary to 2SB863	TOSHIBA

DIODES, LEDS

DEVICE TYPE	APPLICATIONS	STRUCTURE†	MAXIMUM RATINGS Absolute - Maximum Values: (T_A = 25°C unless otherwise specified)									ELECTRICAL CHARACTERISTICS Typical Values: (T_A = 25°C unless otherwise specified)							MANUFACTURER
			Reverse Surge Voltage V_{Rsurge} (V)	Peak Reverse Voltage V_{RM} (V)	Reverse Voltage V_R (V)	Peak Forward Voltage V_{FM} (V)	Peak Forward Current I_{FM} (mA)	Average Rectified Current I_O (mA)	Forward Surge Current $I_{F\,surge}$ (A)	Junction Temperature T_J (°C)	Total Power Dissipation P_D (mW)	Forward Current I_{Fmin} (mA)	Test Condition V_F (V)	Forward Voltage V_{Fmax} (V)	Test Condition I_F (mA)	Reverse Current I_{Rmax} (uA)	Test Condition V_R (V)	Others	
1SS53	Medium speed switching	Si-EP		35	30		300	100	2	200	500			0.8	1.0	0.1	30		NEC
1S2076	Medium speed switching	Si-EP		35	30		450	150	1	175	250			0.8	1.0	0.1	30		HITACHI
1S2076A	Medium speed switching	Si-EP		70	60		450	150	1	175	250			0.8	10	1.0	30		HITACHI
VD1222	Thermal comp.	Si-D					30				50			1.34	1.5			Varistor diode	NEC
IN4002	Rectifier	Si-DJ			100			1.0A	30	175				1.1	1A	5		R_{th} = 80°C/W	GENERAL INSTRUMENT
W02	Rectifier	Si-DJ (Bridge)			200	200		1.5A	50	125				1.0	1A	10		R_{th} = 50°C/W	GENERAL INSTRUMENT
GP30D-L	Rectifier	Si-DJ	200	200	140			3.0A	125	150				1.1	3A	5			GENERAL INSTRUMENT
TLG113-A	Lamp (green)	GaP			4			I_F = 25 mA		75	100			2.8	30	5	4	I_V = 17.0 mcd (I_F = 15 mA)	TOSHIBA
TLR120A	Lamp (red)	GaP			4			I_F = 20 mA		75	90			2.8	20	5	4	I_V = 4.0 mcd (I_F = 15 mA)	TOSHIBA
TLS113	Lamp (red)	GaAsP			4			I_F = 25 mA		75	100			2.8	20	100	4	I_V = 15.0 mcd (I_F = 15 mA)	TOSHIBA
TLY113-A	Lamp (yellow)	GaAsP			4			I_F = 25 mA		75	100			2.8	20	100	4	I_V = 9.0 mcd (I_F = 15 mA)	TOSHIBA

VARIABLE CAPACITANCE DIODE

DEVICE TYPE	APPLICATION	STRUCTURE†	MAXIMUM RATINGS Absolute-Maximum Values:				ELECTRICAL CHARACTERISTICS Typical Values (T_A 25°C unless otherwise specified)														Others	MANUFACTURER
			Reverse Voltage	Forward Current	Total Power Dissipation	Jundtion Temperature	Reverse Voltage		Reverse Current		Capacitance (1)			Capacitance (2)			Q				
								Test Condition		Test Condition		Test Condition			Test Condition			Test Condition			
			V_R (V)	I_F (mA)	P_D (mW)	T_J (°C)	V_{BR} (V)	I_R (μA)	I_R (nA)	V_R (V)	C_{1V} (pF)	V_R (V)	f (MHz)	C_{25V} (pF)	V_R (V)	f (MHz)	Q	V_R (V)	f (MHz)		
KV1226	AM tuner (2 elements)	Si-E	30 (Ta=25°C)	50	100	125	30 min.	10	100 max.	25	510 ~ 620	1	1	16 ~ 26	25	1	200 min	1	1	ΔC · 2% max.	TOKO

ZENER DIODES

DEVICE TYPE	APPLICATIONS	STRUCTURE†	MAXIMUM RATINGS Absolute · Maximum Values: (T_A = 25°C unless otherwise specified)			ELECTRICAL CHARACTERISTICS Typical Values: (T_A = 25°C unless otherwise specified)												Others	MANUFACTURER
			Total Power Dissipation	Zener Current	Junction Temperature	Zener Voltage V_Z			Test Conditions	Differential Resistance r_Z		Test Conditions	Temperature Coefficient γ_Z		Test Conditions	Reverse Current I_Z	Test Conditions		
			P_D (mW)	I_Z (A)	T_J (°C)	MIN (V)	TYP (V)	MAX (V)	I_Z (mA)	TYP (Ω)	MAX (Ω)	I_Z (mA)	TYP (%/°C)	MAX (%/°C)	I_Z (mA)	MAX (μA)	V_R (V)		
RD2.2 –EC	Regulator	Si-J	400		175	2.215		2.445	20		120	20				120	0.7		NEC
RD6.2 –EB2	Regulator	Si-J	400		175	5.96		6.27	20		20	20				5	3.0		NEC
RD8.2 –EB1	Regulator	Si-J	400		175	7.53		7.92	20		10	20				2	5.0		NEC
RD12 –EB3	Regulator	Si-J	400		175	11.74		12.35	10		20	10				2	9.0		NEC
RD13 –EB3	Regulator	Si-J	400		175	12.99		13.66	10		25	10				2	10.0		NEC
RD22 –EB4	Regulator	Si-J	400		175	21.52		22.63	5		60	5				2	17.0		NEC
RD27 –EB3	Regulator	Si-J	400		175	25.63		26.95	5		95	5				2	21.0		NEC

LSI μPD1703C-016

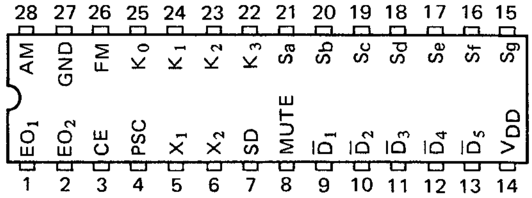
FUNCTION/MANUFACTURER

- **PLL Synthesizer & Controller for AM/FM Tuner/NEC**

Absolute Maximum Ratings (Ta=25±2°C)

ITEM	SYMBOL	RATING	UNIT
Supply Voltage	V_{DD}	–0.3 ~ +0.6	V
Input Voltage	V_I	–0.3 ~ +V_{DD}	V
Output Voltage	V_O	–0.3 ~ +V_{DD}	V
Output Current	I_O	10	mA
Maximum Output Voltage	V_{BDS}	–35	V
Operating Temperature	Topt	–35 ~ +75	°C
Storage Temperature	Tstg	–55 ~ +125	°C

PIN CONFIGULATION (TOP VIEW)


28 27 26 25 24 23 22 21 20 19 18 17 16 15
AM
GND
FM
K_0
K_1
K_2
K_3
Sa
Sb
Sc
Sd
Se
Sf
Sg
EO_1
EO_2
CE
PSC
X_1
X_2
SD
MUTE
$\bar{D}_1$
$\bar{D}_2$
$\bar{D}_3$
$\bar{D}_4$
$\bar{D}_5$
VDD
1 2 3 4 5 6 7 8 9 10 11 12 13 14

PIN DESCRIPTION

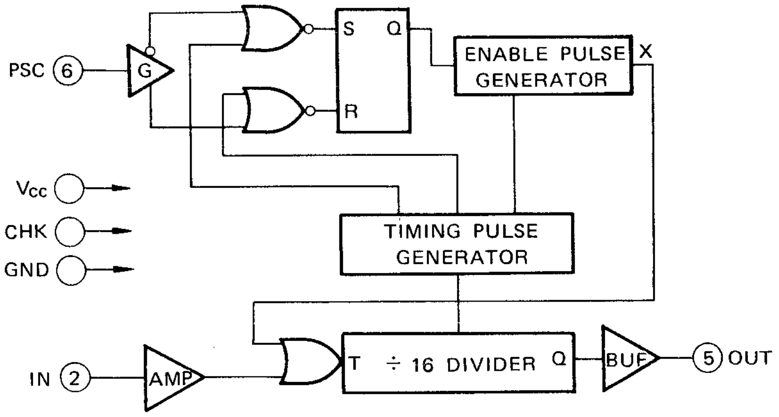
PIN #	SYMBOL	NAME AND FUNCTION
1	EO_1	Phase Detector Outputs; These pins are the charge pump outputs.
2	EO_2	
3	CE	Chip Enable Input.
4	PSC	Prescaler Control Output.
5	X_1	Crystal Oscillator Inputs; Connect 4.5 MHz quartz crystal.
6	X_2	
7	SD	Auto Tuning Stop Input. 5V: [illegible] 0V: [illegible]
8	MUTE	Muting Output.
9	$\bar{D}_1$	Digit Outputs
10	$\bar{D}_2$	
11	$\bar{D}_3$	
12	$\bar{D}_4$	
13	$\bar{D}_5$	
14	V_{DD}	Power Supply; +5V ± 0.5V
15	Sg	Segment Outputs
16	Sf	
17	Se	
18	Sd	
19	Sc	
20	Sb	
21	Sa	
22	K_3	Key Return Signal Inputs
23	K_2	
24	K_1	
25	K_0	
26	FM	FM Local Oscillator Signal Inputs
27	GND	OV Power Supply
28	AM	AM Local Oscillator Signal Inputs

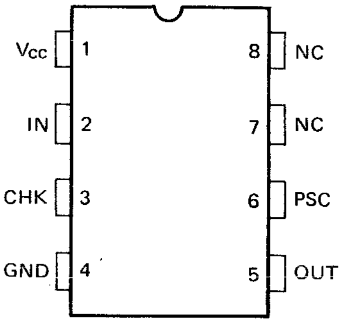
INTEGRATED CIRCUIT µPB553AC

FUNCTION/MANUFACTURER

- **Prescaler/NEC**

BLOCK DIAGRAM & CONNECTION INFORMATION


PSC 6
G
S
Q
R
ENABLE PULSE GENERATOR
X
Vcc
CHK
GND
TIMING PULSE GENERATOR
IN 2
AMP
T
÷ 16 DIVIDER
Q
BUF
5 OUT

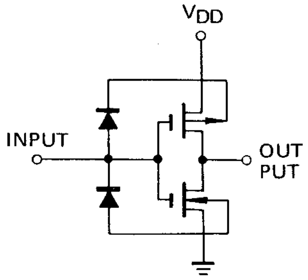

Vcc 1
IN 2
CHK 3
GND 4
8 NC
7 NC
6 PSC
5 OUT

INTEGRATED CIRCUIT µPD4069C/MSM4069RS

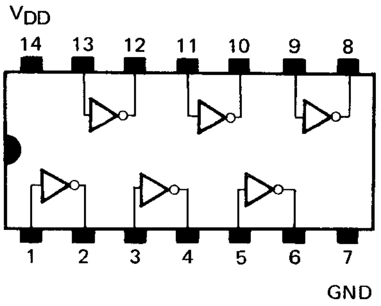
FUNCTION/MANUFACTURER

- **Hex Inverter (C-MOS IC)/NEC (µPD4069C), Oki (MSM4069RS)**

EQUIVALENT CIRCUIT & CONNECTION INFORMATION


VDD
INPUT
OUT PUT

(1/6 CIRCUIT SHOWN)


VDD
14
13
12
11
10
9
8
1
2
3
4
5
6
7
GND

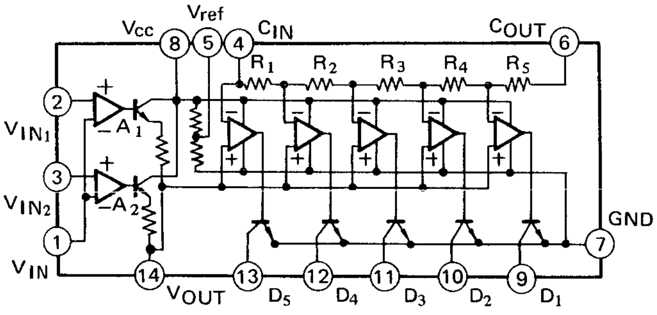
(TOP VIEW)

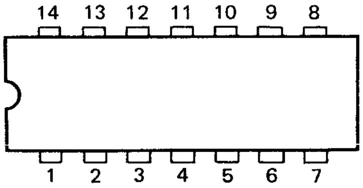
INTEGRATED CIRCUIT TA7654P

FUNCTION/MANUFACTURER

- **LED Level Meter Driver/Toshiba**

BLOCK DIAGRAM & CONNECTION INFORMATION


Vcc 8
Vref 5
CIN 4
COUT 6
R1
R2
R3
R4
R5
2
VIN1
A1
3
VIN2
A2
1
VIN
14 VOUT
13 D5
12 D4
11 D3
10 D2
9 D1
7 GND


14
13
12
11
10
9
8
1
2
3
4
5
6
7

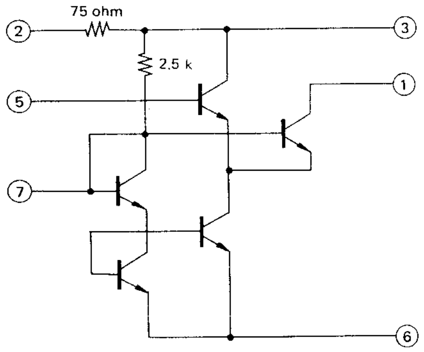
(TOP VIEW)

INTEGRATED CIRCUIT μPC555H

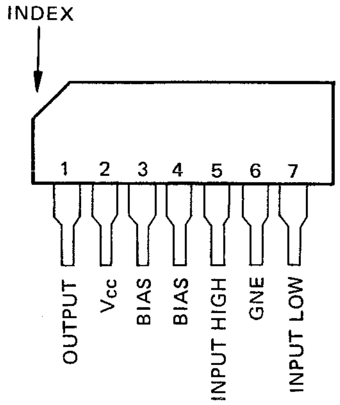
FUNCTION/MANUFACTURER

- **RF-IF Amplifier/NEC**

EQUIVALENT CIRCUIT AND CONNECTION INFORMATION



75 ohm
2.5 k
1
2
3
5
6
7



INDEX
1 2 3 4 5 6 7
OUTPUT
Vcc
BIAS
BIAS
INPUT HIGH
GNE
INPUT LOW

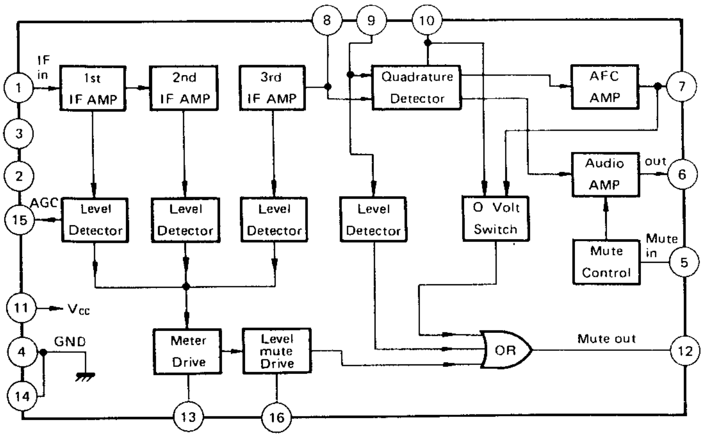
(SIDE VIEW)

INTEGRATED CIRCUIT μPC1167C2

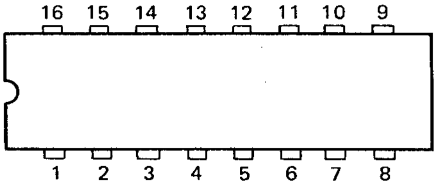
FUNCTION/MANUFACTURE

- **FM-IF Amplifier & Quadrature Detector/NEC**

BLOCK DIAGRAM & CONNECTION INFORMATION



IF in
1st IF AMP
2nd IF AMP
3rd IF AMP
Quadrature Detector
AFC AMP
Audio AMP
out
Mute Control
Mute in
AGC
Level Detector
Level Detector
Level Detector
Level Detector
0 Volt Switch
Vcc
GND
Meter Drive
Level mute Drive
OR
Mute out
1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16



16 15 14 13 12 11 10 9
1 2 3 4 5 6 7 8

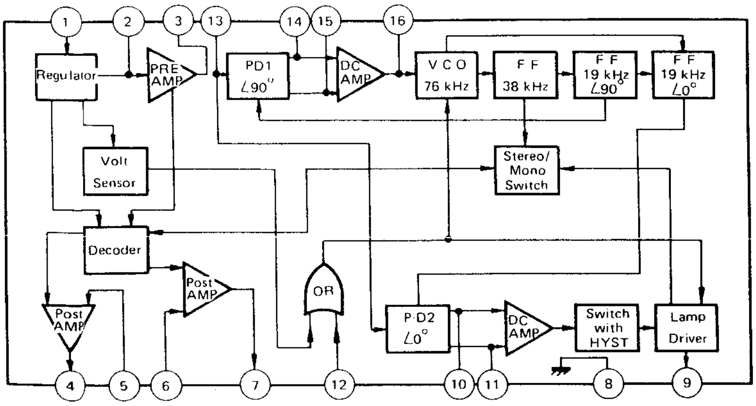
(TOP VIEW)

INTEGRATED CIRCUIT HA12016

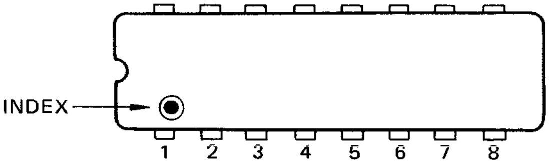
FUNCTION/MANUFACTURER

- **FM Stereo Demodulator/Hitachi**

BLOCK DIAGRAM & CONNECTION INFORMATION



Regulator
PRE AMP
PD1 ∠90°
DC AMP
VCO 76 kHz
F F 38 kHz
F F 19 kHz ∠90°
F F 19 kHz ∠0°
Volt Sensor
Stereo/ Mono Switch
Decoder
Post AMP
Post AMP
OR
P·D2 ∠0°
DC AMP
Switch with HYST
Lamp Driver
1
2
3
13
14
15
16
4
5
6
7
12
10
11
8
9



16 15 14 13 12 11 10 9
INDEX
1 2 3 4 5 6 7 8

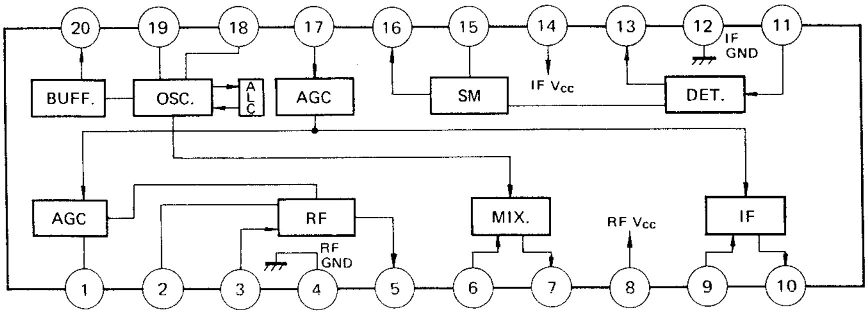
(TOP VIEW)

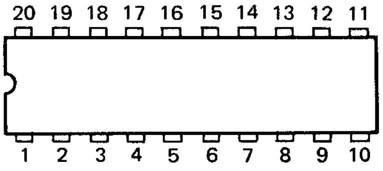
INTEGRATED CIRCUIT LA1245

FUNCTION/MANUFACTURER

- AM Radio Receiver System/Sanyo

BLOCK DIAGRAM & CONNECTION INFORMATION


20
19
18
17
16
15
14
13
12
11
IF GND
BUFF.
OSC.
ALC
AGC
SM
IF Vcc
DET.
AGC
RF
MIX.
RF Vcc
IF
RF GND
1
2
3
4
5
6
7
8
9
10


20 19 18 17 16 15 14 13 12 11
1 2 3 4 5 6 7 8 9 10

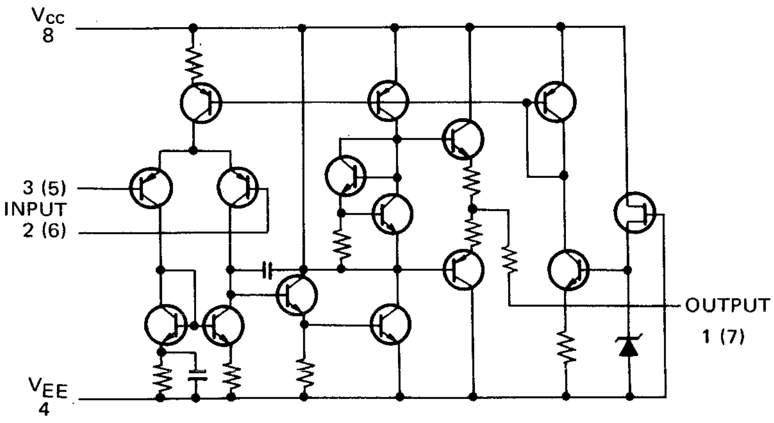
(TOP VIEW)

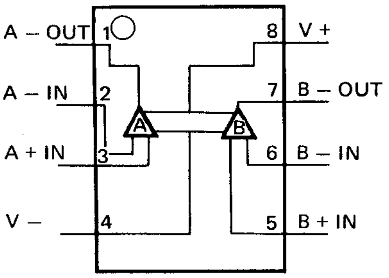
INTEGRATED CIRCUIT HA17458PS

FUNCTION/MANUFACTURER

- Dual Operational Amplifier/Hitachi

EQUIVALENT CIRCUIT & CONNECTION INFORMATION


Vcc 8
3 (5)
INPUT
2 (6)
OUTPUT
1 (7)
VEE 4


A – OUT
1
A – IN
2
A + IN
3
V –
4
8
V +
7
B – OUT
6
B – IN
5
B + IN
A
B

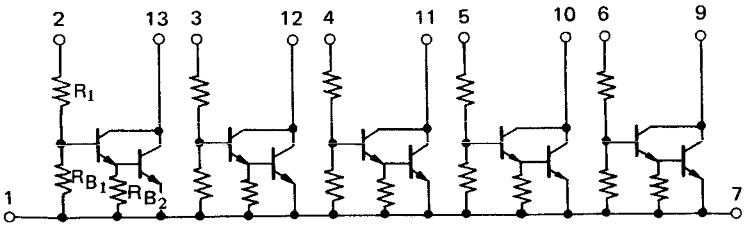
(TOP VIEW)

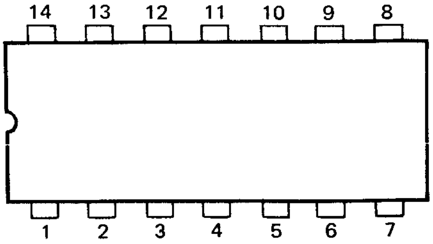
INTEGRATED CIRCUIT μPA53C

FUNCTION/MANUFACTURER

- Darington Transistor Array/NEC

EQUIVALENT CIRCUIT & CONNECTION INFORMATION

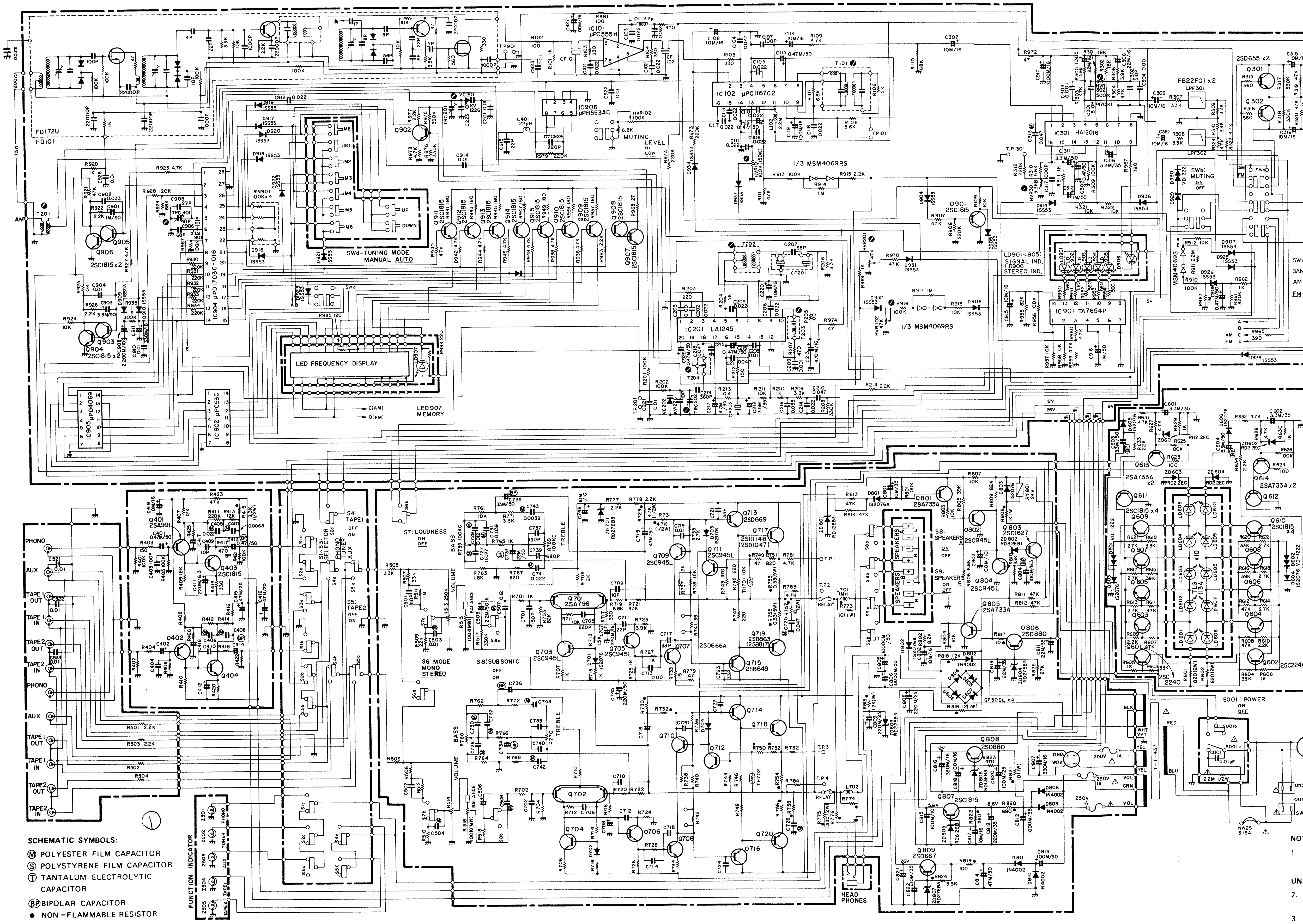

2
13
3
12
4
11
5
10
6
9
R1
RB1
RB2
1
7

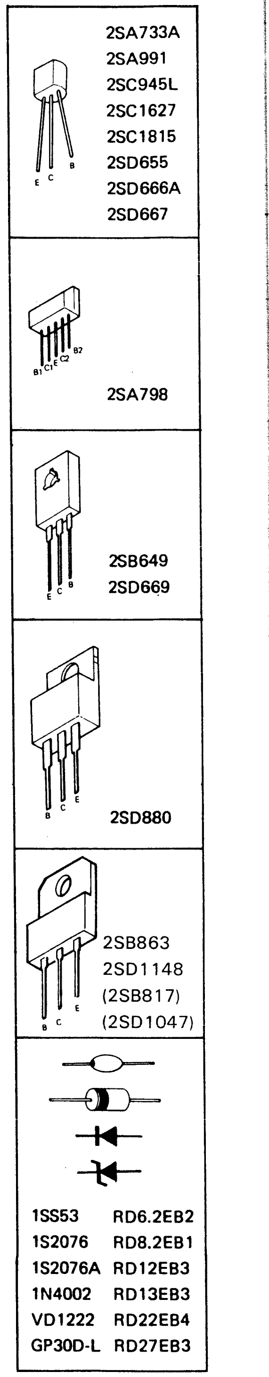

14 13 12 11 10 9 8
1 2 3 4 5 6 7

(TOP VIEW)

SCHEMATIC DIAGRAM

NIKKO NR-800 U.S.A. & CANADA MODEL


FD172U
FD101
IC101 μPC555H
IC102 μPC1167C2
IC301 HA12016
IC906 μPB553AC
IC904 μPD1710C016
IC905 μPD4069
IC902 μPC53C
IC201 LA1245
IC901 TA7654P
1/3 MSM4069RS
MUTING LEVEL HI LOW
SWd-TUNING MODE MANUAL AUTO
UP
DOWN
LED FREQUENCY DISPLAY
LED907 MEMORY
LD901~905: SIGNAL IND. LD906 STEREO IND.
FB22F01 x2
LPF301
LPF302
SWb: MUTING ON OFF
SWa BAND AM FM
2SC1815x2
2SC1815 x2
PHONO
AUX
TAPE1 OUT
TAPE1 IN
TAPE2 OUT
TAPE2 IN
S1: SELECTOR PHONO TUNER AUX
S4: TAPE1 OFF ON
S5: TAPE2 OFF ON
S7: LOUDNESS ON OFF
S6: MODE MONO STEREO
S8: SUBSONIC OFF ON
BASS
TREBLE
VOLUME
BALANCE
S8: SPEAKERS ON OFF
S9: SPEAKERS ON OFF
SPEAKERS
HEAD PHONES
RELAY
FUNCTION INDICATOR
PHONO
TUNER
AUX
TAPE1
TAPE2
2SA733A x2
2SC1815 x4
2SC2240
GP30DL x4
S001: POWER ON OFF
120V 60HZ
UNSWITCHED
OUT LET
SWITCHED
NW25 3.15A
RED
BLU
BLK
WHT
YEL
GRN
VOL
250V 1A
T-1-437


2SA733A
2SA991
2SC945L
2SC1627
2SC1815
2SD655
2SD666A
2SD667
E C B
2SA798
2SB649
2SD669
2SD880
2SB863
2SD1148
(2SB817)
(2SD1047)
B C E
1SS53 RD6.2EB2
1S2076 RD8.2EB1
1S2076A RD12EB3
1N4002 RD13EB3
VD1222 RD22EB4
GP30D-L RD27EB3

SCHEMATIC SYMBOLS:

- Ⓜ POLYESTER FILM CAPACITOR
- Ⓢ POLYSTYRENE FILM CAPACITOR
- Ⓣ TANTALUM ELECTROLYTIC CAPACITOR
- ⒷⓅ BIPOLAR CAPACITOR
- ● NON-FLAMMABLE RESISTOR

⚠ INDICATES SAFETY CRITICAL COMPONENTS.
FOR CONTINUED SAFETY, REPLACE SAFETY CRITICAL COMPONENTS
ONLY WITH MANUFACTURER'S RECOMMENDED PARTS.

NOTES:

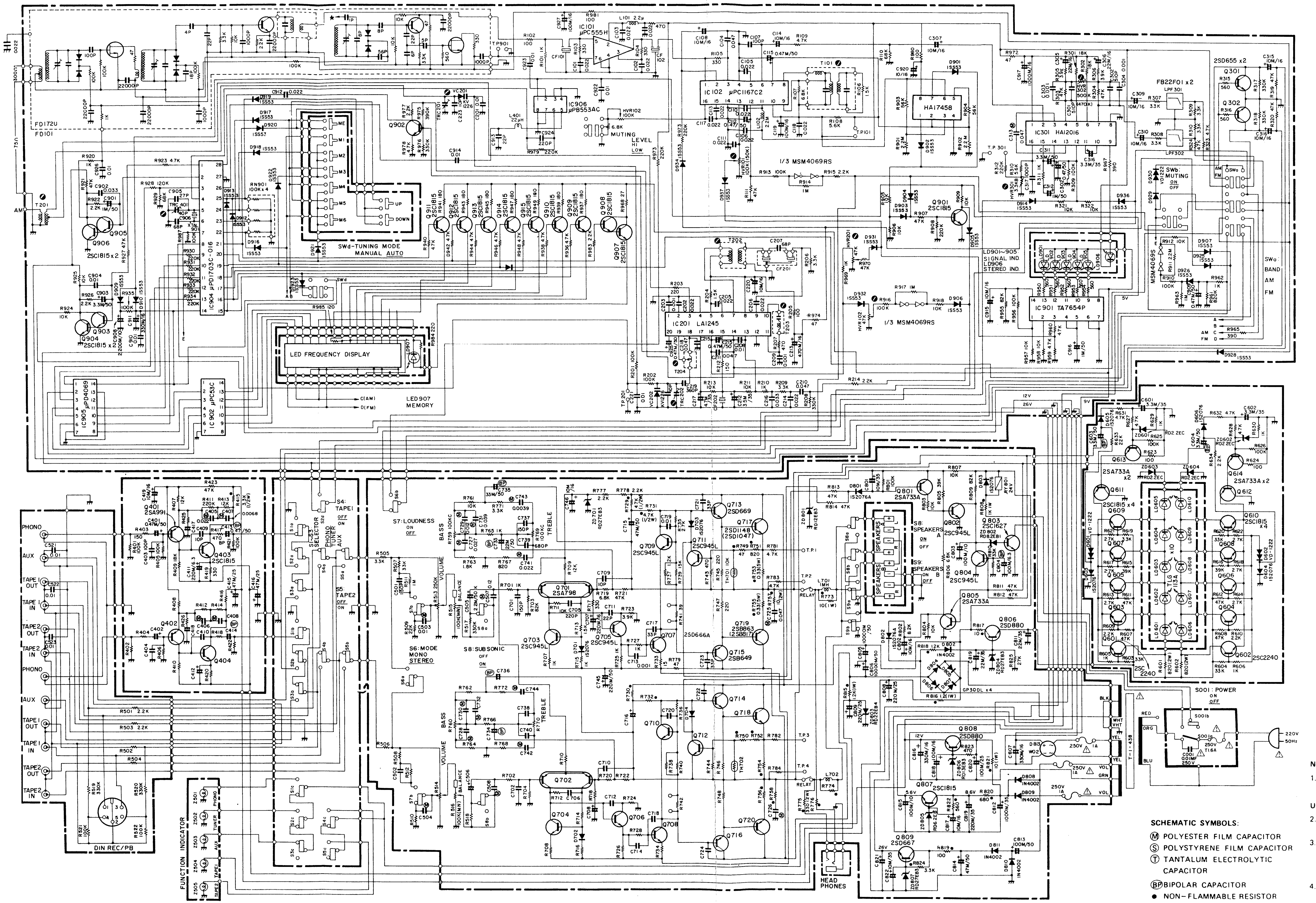
1. SCHEMATIC IS SUBJECT TO CHANGE WITHOUT NOTICE.

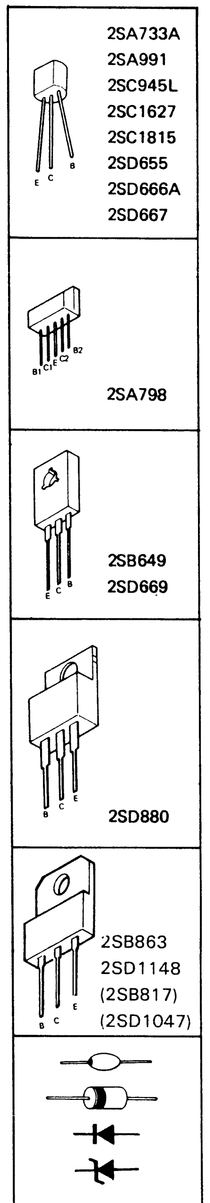
UNLESS OTHERWISE SPECIFIED:

2. RESISTANCE VARUES ARE IN OHMS. K = 1,000 ; M = 1,000,000
3. CAPACITANCE VALUES 1.0 AND ABOVE ARE IN pF OR μF (P = pF, M = μF), LESS THAN 1.0 ARE IN μF. (ELECTROLYTIC CAPACITANCE VALUES ARE IN μF/WV.)
4. VOLTAGES ARE MEASURED TO CHASSIS GROUND WITH A "DC VOLTMETER".

SCHEMATIC DIAGRAM

NIKKO NR-800 EUROPE & U.K. MODEL


FD172U
FD101
AM
75Ω
IC101 μPC555H
IC102 μPC1167C2
HA17458
IC301 HA12016
FB22F01 x2
LPF301
LPF302
Q301
Q302
2SD655 x2
SWb: MUTING ON OFF
SWa
BAND
AM
FM
IC906 μPB553AC
MUTING
LEVEL
1/3 MSM4069RS
IC904 μPD1703C-016
SWd-TUNING MODE MANUAL AUTO
UP
DOWN
ME
M1
M2
M3
M4
M5
M6
Q902
Q911
Q912
Q913
Q914
Q915
Q910
Q909
Q908
Q907
2SC1815
Q905
Q906
2SC1815 x2
Q903
Q904
2SC1815 x2
IC201 LA1245
T202
T201
T204
LED FREQUENCY DISPLAY
LD907
LED907 MEMORY
C(AM)
D(FM)
IC905 μPD4069
IC902 μPC53C
LD901~905 SIGNAL IND
LD906 STEREO IND.
IC901 TA7654P
MSM4069S
PHONO
AUX
TAPE1 OUT
TAPE1 IN
TAPE2 OUT
TAPE2 IN
DIN REC/PB
Q401 2SA991
Q403 2SC1815
Q402
Q404
S3: SELECTOR
PHONO
TUNER
AUX
S4: TAPE1
S5 TAPE2
S7: LOUDNESS ON OFF
S6: MODE MONO STEREO
S8: SUBSONIC ON OFF
BASS
TREBLE
VOLUME
BALANCE
Q701 2SA798
Q702
Q703 2SC945L
Q704
Q705 2SC945L
Q706
Q707
Q708
Q709 2SC945L
Q710
Q711 2SC945L
Q712
Q713 2SD669
Q714
Q715 2SB649
Q716
Q717 2SD1148 (2SD1047)
Q718
Q719 2SB863 (2SB817)
Q720
2SD666A
RELAY
HEAD PHONES
T.P1
T.P2
T.P3
T.P4
Q801 2SA733A
Q802 2SC945L
Q803 2SC1627
Q804 2SC945L
Q805 2SA733A
Q806 2SD880
S8: SPEAKERS A ON OFF
S9: SPEAKERS B ON OFF
SPEAKERS A
SPEAKERS B
GP30DL x4
Q807 2SC1815
Q808 2SD880
Q809 2SD667
S001: POWER ON OFF
RED
ORG
BLU
BLK
WHT
YEL
GRN
VOL
T-1-438
220V 50Hz
FUNCTION INDICATOR
PHONO
TUNER
AUX
TAPE1
TAPE2
Q601
Q602
Q603
Q604
Q605
Q606
Q607
Q608
Q609
Q610
Q611
Q612
Q613
Q614
2SA733A x2
2SC1815 x4
2SC2240
TLG 113A
12V
26V
9V
5V


2SA733A
2SA991
2SC945L
2SC1627
2SC1815
2SD655
2SD666A
2SD667
E C B
2SA798
2SB649
2SD669
E C B
2SD880
B C E
2SB863
2SD1148
(2SB817)
(2SD1047)
B C E

1SS53	RD6.2EB2
1S2076	RD8.2EB1
1S2076A	RD12EB3
1N4002	RD13EB3
VD1222	RD22EB4
GP30D-L	RD27EB3

SCHEMATIC SYMBOLS:

Ⓜ POLYESTER FILM CAPACITOR

Ⓢ POLYSTYRENE FILM CAPACITOR

Ⓣ TANTALUM ELECTROLYTIC CAPACITOR

ⒷⓅ BIPOLAR CAPACITOR

● NON-FLAMMABLE RESISTOR

NOTES:

1. SCHEMATIC IS SUBJECT TO CHANGE WITHOUT NOTICE.

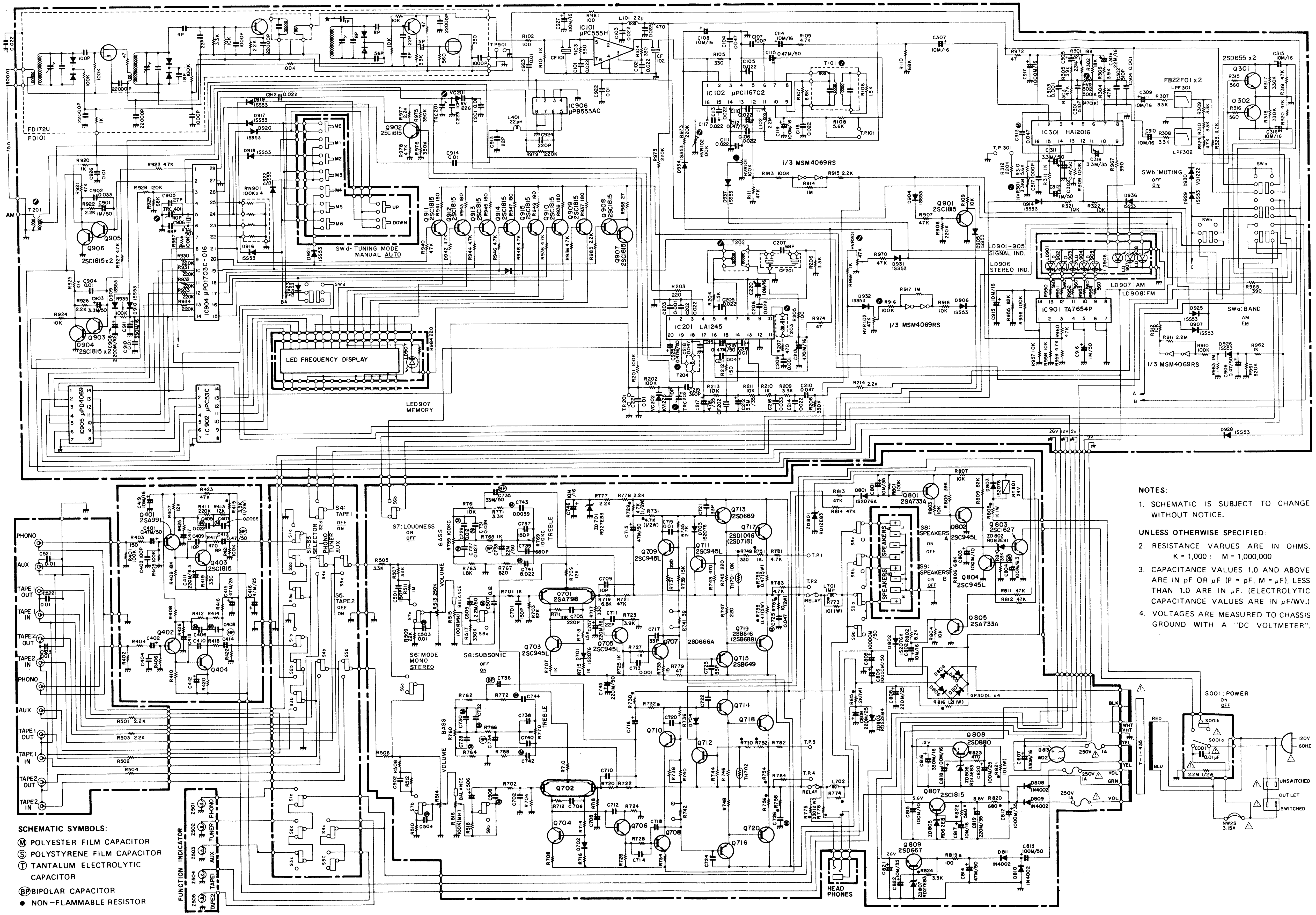
UNLESS OTHERWISE SPECIFIED:

2. RESISTANCE VARUES ARE IN OHMS. K = 1,000 ; M = 1,000,000
3. CAPACITANCE VALUES 1.0 AND ABOVE ARE IN pF OR μF (P = pF, M = μF), LESS THAN 1.0 ARE IN μF. (ELECTROLYTIC CAPACITANCE VALUES ARE IN μF/WV.)
4. VOLTAGES ARE MEASURED TO CHASSIS GROUND WITH A "DC VOLTMETER".

⚠ INDICATES SAFETY CRITICAL COMPONENTS.
FOR CONTINUED SAFETY, REPLACE SAFETY CRITICAL COMPONENTS ONLY WITH MANUFACTURER'S RECOMMENDED PARTS.

SCHEMATIC DIAGRAM

NIKKO NR-700 U.S.A. & CANADA MODEL


FD172U
FD101
AM
75Ω
T201
IC101 μPC555H
IC102 μPC1167C2
T101
IC906 μPB553AC
IC904 μPD1703C-011
IC905 μPD4069
IC902 μPC53C
Q902 2SC1815
Q905
Q906
2SC1815x2
Q903
Q904 2SC1815 x2
Q911 2SC1815
Q912 2SC1815
Q913 2SC1815
Q914 2SC1815
Q915 2SC1815
Q910 2SC1815
Q909 2SC1815
Q908 2SC1815
Q907
SWd: TUNING MODE
MANUAL AUTO
UP
DOWN
ME
M1
M2
M3
M4
M5
M6
LED FREQUENCY DISPLAY
LED907 MEMORY
1/3 MSM4069RS
IC201 LA1245
T201
T202
T204
IC301 HA12016
2SD655 x2
Q301
Q302
FB22F01 x2
LPF301
LPF302
SWb: MUTING
OFF
ON
Q901 2SC1815
LD901~905 SIGNAL IND.
LD906 STEREO IND.
LD907: AM
LD908: FM
IC901 TA7654P
SWa: BAND
AM
FM
26V
12V
5V
9V
PHONO
AUX
TAPE1 OUT
TAPE1 IN
TAPE2 OUT
TAPE2 IN
Q401 2SA991
Q403 2SC1815
Q402
Q404
S1-S3 SELECTOR
PHONO
TUNER
AUX
S4: TAPE1
OFF
ON
S5: TAPE2
OFF
ON
S7: LOUDNESS
ON
OFF
BASS
TREBLE
VOLUME
BALANCE
S6: MODE
MONO
STEREO
S8: SUBSONIC
OFF
ON
Q701 2SA798
Q702
Q703 2SC945L
Q704
Q705 2SC945L
Q706
Q707
Q708
Q709 2SC945L
Q710
Q711 2SC945L
Q712
Q713 2SD669
Q714
Q715 2SB649
Q716
Q717 2SD1046 (2SD718)
Q718
Q719 2SB816 (2SB688)
Q720
2SD666A
T.P1
T.P2
T.P3
T.P4
L701
L702
RELAY
Q801 2SA733A
Q802 2SC945L
Q803 2SC1627
Q804 2SC945L
Q805 2SA733A
S8: SPEAKERS 1
ON
OFF
S9: SPEAKERS 2
ON
OFF
SPEAKERS
GP30DL x4
Q807 2SC1815
Q808 2SD880
Q809 2SD667
HEAD PHONES
S001: POWER
ON
OFF
T-1-435
BLK
WHT
YEL
GRN
RED
BLU
VOL
120V 60Hz
UNSWITCHED
OUT LET
SWITCHED
NW25 3.15A
FUNCTION INDICATOR
Z501 PHONO
Z502 TUNER
Z503 AUX
Z504 TAPE1
Z505 TAPE2

NOTES:

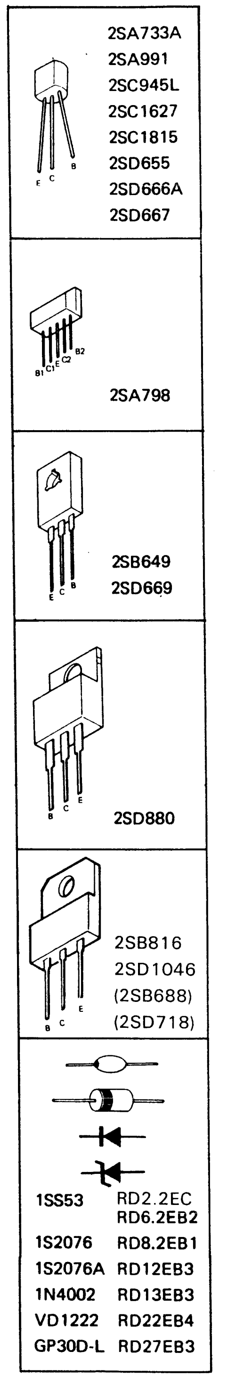
1. SCHEMATIC IS SUBJECT TO CHANGE WITHOUT NOTICE.

UNLESS OTHERWISE SPECIFIED:

2. RESISTANCE VARUES ARE IN OHMS.
   K = 1,000 ; M = 1,000,000
3. CAPACITANCE VALUES 1.0 AND ABOVE ARE IN pF OR μF (P = pF, M = μF), LESS THAN 1.0 ARE IN μF. (ELECTROLYTIC CAPACITANCE VALUES ARE IN μF/WV.)
4. VOLTAGES ARE MEASURED TO CHASSIS GROUND WITH A "DC VOLTMETER".

SCHEMATIC SYMBOLS:

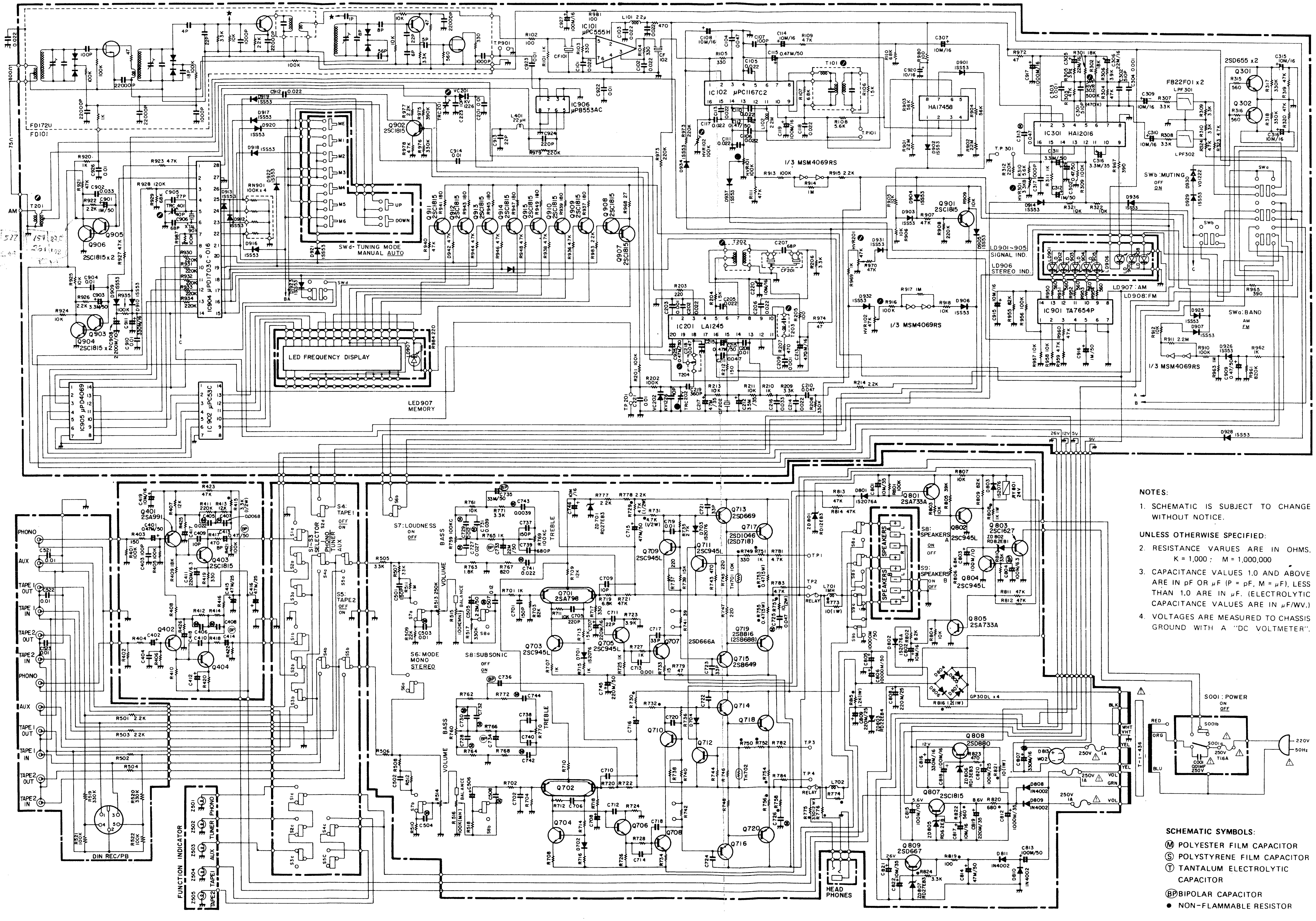
- Ⓜ POLYESTER FILM CAPACITOR
- Ⓢ POLYSTYRENE FILM CAPACITOR
- Ⓣ TANTALUM ELECTROLYTIC CAPACITOR
- ⒷⓅ BIPOLAR CAPACITOR
- ● NON-FLAMMABLE RESISTOR


2SA733A
2SA991
2SC945L
2SC1627
2SC1815
2SD655
2SD666A
2SD667
E C B
B1 C1 E C2 B2
2SA798
2SB649
2SD669
E C B
2SD880
B C E
2SB816
2SD1046
(2SB688)
(2SD718)
B C E
1SS53
1S2076
1S2076A
1N4002
VD1222
GP30D-L
RD2.2EC
RD6.2EB2
RD8.2EB1
RD12EB3
RD13EB3
RD22EB4
RD27EB3

⚠ INDICATES SAFETY CRITICAL COMPONENTS.
FOR CONTINUED SAFETY, REPLACE SAFETY CRITICAL COMPONENTS
ONLY WITH MANUFACTURER'S RECOMMENDED PARTS.

SCHEMATIC DIAGRAM

NIKKO NR-700 EUROPE & U.K. MODEL


FD172U
FD101
IC101 μPC555H
IC102 μPC1167C2
IC906 μPB553AC
HA17458
IC301 HA12016
FB22F01 x2
LPF301
LPF302
1/3 MSM4069RS
IC904 μPD1703C-016
SWd: TUNING MODE
MANUAL AUTO
UP
DOWN
SWb: MUTING
OFF
ON
LD901~905 SIGNAL IND.
LD906 STEREO IND.
LD907: AM
LD908: FM
IC901 TA7654P
SWa: BAND
AM
FM
IC201 LA1245
LED FREQUENCY DISPLAY
LED907 MEMORY
IC905 μPD4069
IC902 μPC53C
PHONO
AUX
TAPE1 OUT
TAPE1 IN
TAPE2 OUT
TAPE2 IN
DIN REC/PB
FUNCTION INDICATOR
S4: TAPE1
S5: TAPE2
S1-S3 SELECTOR
PHONO
TUNER
AUX
S7: LOUDNESS
ON
OFF
BASS
TREBLE
VOLUME
BALANCE
S6: MODE
MONO
STEREO
S8: SUBSONIC
OFF
ON
Q701 2SA798
Q702
HEAD PHONES
S8: SPEAKERS A
ON
OFF
S9: SPEAKERS B
ON
OFF
SPEAKERS
RELAY
T-1-436
S001: POWER
ON
OFF
S001a
S001b
250V T1.6A
C001 0.01MF 250V
RED
ORG
BLU
BLK
WHT
YEL
GRN
VOL
220V
50Hz

NOTES:

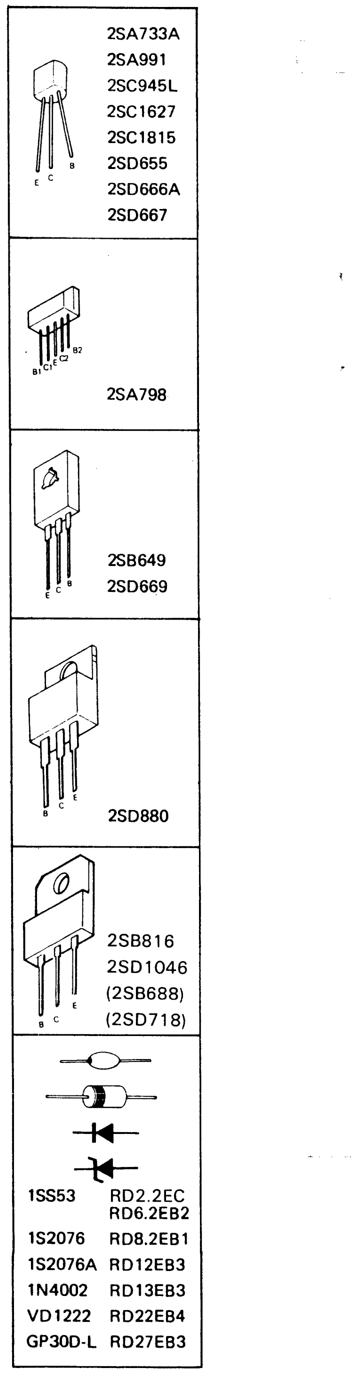
1. SCHEMATIC IS SUBJECT TO CHANGE WITHOUT NOTICE.

UNLESS OTHERWISE SPECIFIED:

2. RESISTANCE VARUES ARE IN OHMS. K = 1,000 ; M = 1,000,000
3. CAPACITANCE VALUES 1.0 AND ABOVE ARE IN pF OR μF (P = pF, M = μF), LESS THAN 1.0 ARE IN μF. (ELECTROLYTIC CAPACITANCE VALUES ARE IN μF/WV.)
4. VOLTAGES ARE MEASURED TO CHASSIS GROUND WITH A "DC VOLTMETER".

SCHEMATIC SYMBOLS:

Ⓜ POLYESTER FILM CAPACITOR
Ⓢ POLYSTYRENE FILM CAPACITOR
Ⓣ TANTALUM ELECTROLYTIC CAPACITOR
(BP) BIPOLAR CAPACITOR
● NON-FLAMMABLE RESISTOR


E C B
2SA733A
2SA991
2SC945L
2SC1627
2SC1815
2SD655
2SD666A
2SD667
B1 C1 E C2 B2
2SA798
E C B
2SB649
2SD669
B C E
2SD880
B C E
2SB816
2SD1046
(2SB688)
(2SD718)
1SS53
1S2076
1S2076A
1N4002
VD1222
GP30D-L
RD2.2EC
RD6.2EB2
RD8.2EB1
RD12EB3
RD13EB3
RD22EB4
RD27EB3

⚠ INDICATES SAFETY CRITICAL COMPONENTS.
FOR CONTINUED SAFETY, REPLACE SAFETY CRITICAL COMPONENTS
ONLY WITH MANUFACTURER'S RECOMMENDED PARTS.